15.47

A Study of Rhythmic Organisation in Ancient Indian Music

The *Tāla* System as described in Bharata's Nāṭyaśāstra

Narinder Mohkamsing

A Study of Rhythmic Organisation in Ancient Indian Music

The Tāla System as described in Bharata's Nāṭyaśāstra

PROEFSCHRIFT

ter verkrijging van
de graad van Doctor aan de Universiteit Leiden,
op gezag van de Rector Magnificus Dr. D. D. Breimer,
hoogleraar in de faculteit der Wiskunde en
Natuurwetenschappen en die der Geneeskunde,
volgens besluit van het College voor Promoties
te verdedigen op woensdag 14 mei 2003
klokke 14.15 uur

door

Narindersing Mohkamsing

Geboren te district Suriname, Suriname, in 1958

Promotiecommissie:

Promotor: Prof. Dr. T. E. Vetter
Co-promotor: Dr. E. te Nijenhuis
Referent: Dr. R. Widdess (SOAS, London)

Overige leden: Prof. Dr. H. W. Bodewitz
Prof. Dr. K. R. van Kooij
Dr.H. J. H. Tieken

Dit onderzoek is gefinancierd door de Nederlandse Organisatie voor Wetenschappelijk Onderzoek (NWO).

This study was funded by the Netherlands Organisation for Scientific Research (NWO).

STELLINGEN
van
Narinder Mohkamsing

bij het proefschrift
A Study of Rhythmic Organisation in Ancient Indian Music

1. De duidelijke scheiding tussen het poëtische en muzikale metrum door Bharata, heeft verregaande consequenties.

2. Het feit dat het Nāṭyaśāstra zwijgt over *dhruva mārga*, terwijl het Dattilam deze accepteert als de basis van drie andere *mārga-s*, getuigt van een nieuwe ontwikkeling.

3. Kintaert's suggestie dat de patronen van handgeklap in de oude *tāla* maten ook een polyritmische functie hebben gehad, is niet te handhaven gezien het grote geluidsvolume van slaginstrumenten die muziek en dans begeleiden.
   T. Kintaert, 'Ancient Indian Polyrhythms'. *Sangeet Natak* No. 124. N. Delhi 1997.

4. Vanuit een muziek-historisch perspectief is reden om aan te nemen dat de verwijzingen naar zaken als *ghana* en *dhruva* in het Nāṭyaśāstra voorbeelden zijn van relatief vroege ingrepen in de tekst.

5. De notie van cycli in de Indiase muziek is klaarblijkelijk verbonden met het kosmische begrip van tijd uit de epen, maar kan kennelijk verder worden terug gevoerd naar de Vedische tijd (ca. 1500-500 v.Chr.).

6. Terwijl in het verleden op het gebied van de klassieke muziek de Indiase en Westerse musici weinig invloed op elkaar hadden, blijken de popmusici uit beide muziekculturen elkaar tegenwoordig meer te inspireren.

7. Het algemene gebrek aan historisch besef bij Indiase musici wordt gevoed door het opkomende nationalisme dat uitgaat van een glorieuze en ononderbroken traditie.

8. De categorie Brahmaanse asceten die in de Pali-literatuur met de term *jaṭila* wordt aangeduid, refereert zeer waarschijnlijk naar de *vrātya-s* uit de laat-Vedische tijd.

9. De betekenis en rol van de Sāvitrī (= Gāyatrī) *mantra* bij de bepaling van de Hindoe-identiteit tijdens het Upanayana inweidingsritueel, zou nader onderzocht moeten worden.

10. **Het valt te betreuren dat oude normen als rust en tevredenheid steeds meer lijken te worden ingeruild voor winst en groei.**

A Study of Rhythmic Organisation in Ancient Indian Music: the Tāla System as described in Bharata's Nāṭyaśāstra

Thesis Universiteit Leiden. With ref. With summary in Dutch.

ISBN 90-201-8009-7

Copyright 2003 [illegible], Leiden, The Netherlands.
No part of this book may be reproduced or translated in any form, by any means, electronic or mechanical, including photocopy, recording or any information storage and retrieval system, without permission in writing from the copyright owner.

A Study of Rhythmic Organisation in Ancient Indian Music: the *Tāla* System as described in Bharata's Nāṭyaśāstra

Thesis Universiteit Leiden. With ref. With summary in Dutch.

ISBN 90-9016906-7

Copyright 2003 Narindersing Mohkamsing, Leiden, The Netherlands
No part of this thesis may be reproduced or transmitted in any form, by any means, electronic or mechanical, including photocopy, recording or any informations storage and retrieval system, without permission in writing from the copyrightowner.

CONTENTS v

Abbreviations ix

Preface xi

Introduction: scope of the present study 1

PART I The *tāla* chapter of the Nāṭyaśāstra (NŚ 31) 7

1. An analysis of Nāṭyaśāstra 31 7
1.1 A formal analysis 7
1.1.1 Introduction: *tāla* topics 7
1.1.2 The issue of a *dhruva* beat (I) 9
1.1.3 Phases of analysis 12
1.1.4 A synopsis of the *tāla* chapter 14
1.2 A text-critical analysis of NŚ 31 17
1.2.1 Introduction: textual problems 17
1.2.2 Nāṭyaśāstra editions and manuscripts 19
1.2.3 Description of the textual materials 22
1.2.4 Textual divergences 28
1.2.5 Principles of reconstructing the text 37

2. Text, translation and comments of Nāṭyaśāstra 31 vv. 1-58 39
2.1 Introduction of *tāla* 39
2.1.1 *Kalā* and *laya* 43
2.2 *Tāla* measures 45
2.2.1 *Tāla* as a measure of time 47
2.2.2 Introduction of structural expansion 48
2.3 Three standard beat patterns 49
2.3.1 Sannipātādi, Śamyādi and Tālādi 51
2.4 Formation of other *tryaśra* measures 55
2.5 Principles of structural expansion (I) 58
2.6 *Tāla* cheironomy 60
2.6.1 Four silent gestures and their prescribed sequences 61
2.6.2 Four audible gestures 64
2.6.3 The *dhruva* beat 67
2.7 Principles of structural expansion (II) 68
2.8 *Miśra* and *saṃkīrṇa tāla-s* 70
2.8.1 Constituent elements (*aṅga/vastu*) of musical compositions 72
2.9 The application of fingering 74
2.9.1 Fingering in the *dvikala* state of expansion 74
2.9.2 Fingering in the *catuṣkala* state of expansion 77
2.10 Conclusion of NŚ 31, 1-58 78

PART II Analysis of the *tāla* system 79

3. Etymology and meaning of *tāla* 79
3.1 Etymological derivations 79
3.2 Popular etymologies and explanations of *tāla* 82
3.3 Meanings of *tāla* in musicological sources 85

4. *Tāla* cheironomy 87
4.1 Introduction 87
4.2 *Tāla* cheironomy: a historical perspective 88
4.3 Eight *tāla* gestures 92
4.4 Standard beat-combinations 92
4.5 *Sannipāta* – the key to cyclic rhythm 93
4.5.1 *Sannipāta* – the strongest beat 94
4.5.2 Textual evidence of cyclic notions in ancient Indian music 95
4.5.3 *Sannipāta* – the opening and concluding beat 96
4.5.4 Evidence in the *āsārita* compositions 97
4.5.5 The concluding *sannipāta* in *yathākṣara āsārita* 101
4.5.6 The transposition or coalescence of *sannipāta* 102
4.6 The issue of a *dhruva* beat (II) 105
4.7 *Tāla* cheironomy and polyrhythm 107

5. *Tāla* and percussion instruments (*ghana* & *avanaddha*) 108
5.1 Introduction 108
5.2 The late occurrence of cymbals: a music-historical perspective 108
5.3 *Tāla* and *ghana* (idiophones) 115
5.3.1 Construction & performance of *ghana* 116
5.3.2 *Ghana* and NŚ 31 119
5.4 *Tāla* and *avanaddha* (drums) 123
5.5 Drumming and polyrhythm 124

6. *Tāla* and musical metre 127
6.1 Introduction 127
6.1.1 A formal distinction between poetical and musical metre 127
6.2 *Kalā*, a standardised unit of musical time 128
6.2.1 *Kalā* distinguished from common units 129
6.2.2 *Kalā* and *laya* 133
6.2.3 *Kalā* and *mārga* 135
6.2.4 The assumption of *dhruva mārga* 137
6.3 *Tāla* measures 138
6.3.1 Introduction 138
6.3.2 *Yathākṣara*, the syllabic form of *tāla* patterns 140
6.3.3 *Pluta* 141
6.3.4 The role of *pluta* 142
6.3.5 Two fundamental measures: *cañcatpuṭa* and *cācapuṭa* 143
6.3.6 The formation of three other measures: *pañcapāṇi*, *saṃpakveṣṭaka* and *udghaṭṭa* 144
6.4 *Tāla* types 149
6.4.1 Introduction 149
6.4.2 The problem of *miśra tāla* in the Nāṭyaśāstra 149

6.4.3 The post-Bharata *jāti* system of *tāla* types 151
6.4.4 The textual evidence in the NŚ 152
6.4.5 The development of *tāla* types: a reconstruction 155
6.4.5.1 Abhinavagupta's view 155
6.4.5.2 Śārṅgadeva's view 157
6.5 *Tāla* expansion 162
6.5.1 Introduction 162
6.5.2 Textual difficulties 162
6.5.3 Principles governing *tāla* expansion 163
6.5.3.1 Employment of uniform syllables (*prakṛti*) 163
6.5.3.2 Phases of expansion: *ekakala*, *dvikala* and *catuṣkala* 164
6.5.3.3 Parallel notions of *yathākṣara* and *ekakala* 165
6.5.3.4 *Dvikala* and *catuṣkala* 166
6.5.3.5 Structural representation 167
6.5.3.6 Divisions into *pādabhāga* instead of *kalā* 168
6.5.3.7 *Pādabhāga* & *mātrā* 169
6.5.4 Nine popular *tāla* variations 171
6.6 Cheironomy and *tāla* expansion 172
6.6.1 Cheironomy in *dvikala* 173
6.6.1.1 *Dvikala* matrixes of silent gestures 174
6.6.1.2 *Yathākṣara* imprint on *dvikala* matrixes 175
6.6.2 Cheironomy in *catuṣkala* 177
6.6.2.1 *Catuṣkala* matrixes of silent gestures 177
6.6.2.2 *Yathākṣara* imprint on *catuṣkala* matrixes 179
6.6.3 The System of fingering 180
6.6.3.1 Introduction 180
6.6.3.2 Fingering in *dvikala* 181
6.6.3.3 Dattila on fingering 182
6.6.4 Purpose of fingering 186
6.6.5 *Tāla* cheironomy related to Vedic cheironomy 186
6.6.6 Śārṅgadeva on fingering 187
6.6.7 Fingering in *catuṣkala* 189

7. *Tāla* and rhythmic organisation 191
7.1 Introduction 191
7.2 The relative position of *tāla* 192
7.3 Three main functional aspects of *tāla* 194
7.3.1 *Tāla* as a measuring system (*pramāṇa/māna*) 195
7.3.2 *Tāla* as a supporting system (*pratiṣṭhā/dhāraṇa*) 197
7.3.3 *Tāla* as a coordinating system (*sāmya*) 198
7.3.3.1 Bharata on *sāmya* (balance) in music and drama 200
7.3.3.2 Viśākhila and Dattila: *sāmya* is of two types 203
7.3.3.3 Abhinavagupta on *sāmya* and *adṛṣṭa* 204
7.3.3.4 *Tāla* cheironomy related to Vedic cheironomy (*mudrā*) 205
7.3.3.5 *Sāmya* extended to the idiophones and cheironomy 206

8. *Tāla* and time, action or sound 209
8.1 Introduction 209
8.2 *Tāla* as time (*kāla*) and action (*kriyā*) 209
8.3 *Tāla* and cosmic time (*kāla*) 213
8.4 *Tāla* and sound (*nāda*). 213

9. *Tāla* **and rhythmic factors** 217

9.1 Introduction 217

9.2 *Tāla* equated with rhythm 218

9.3 *Tāla* equated with tempo 218

9.4 *Tāla* equated with *laya*-related factors 219

9.5 A general 'definition' of *tāla* in terms of *laya*, *yati* and *pāṇi* 220

9.6 Domain of *laya*, *yati* and *pāṇi* 221

9.7 *Laya*, *yati* and *pāṇi* related to drumming 222

- 9.7.1 *Laya* 223
- 9.7.2 *Yati* 224
  - 9.7.2.1 *yati* and *mārga* 227
  - 9.7.2.2 Conflict between *laya*, *yati* and *mārga* 229
- 9.7.3 *Pāṇi* 230
  - 9.7.3.1 Introduction 230
  - 9.7.3.2 *Pāṇi* and *tāla* 230
  - 9.7.3.3 *Pāṇi* and *laya* 231
  - 9.7.3.4 The application of *pāṇi-s* in the *āśrāvaṇānirgīta* 235
  - 9.7.3.5 The beat structure of the *āśrāvaṇānirgīta* 236
  - 9.7.3.6 Bharata's ideas applied 239
  - 9.7.3.7 Abhinavagupta's interpretation 240
- 9.7.4 Controversial identification of *pāṇi* with *graha* 241
  - 9.7.4.1 *Graha* (joining in) 241

10. **Conclusions** 245

Bibliography 248

Samenvatting (Summary in Dutch) 260

Curriculum Vitae 262

ABBREVIATIONS

ā	*āvāpa*
A.Bhā.	Abhinavabhāratī
B	Nāṭyaśāstra Ms., Accession No. 11629, serial no. 150, Oriental Institute, Baroda
BORI	Bhandarkar Oriental Research Institute
B_2	Nāṭyaśāstra Ms., Accession No. 26472, Oriental Institute, Baroda
BI	Nāṭyaśāstra edition, Bibliotheca Indica 272A, Vol II. Calcutta 1956
BṛD	Bṛhaddeśī
Datt.	Dattilam
EWA	Etymologisches Wörterbuch des Altindoarischen
GOML	Government Oriental Manuscript Library
GOS	Nāṭyaśāstra edn. Gaekwad's Oriental Series 145, Vol. IV. Baroda 1964.
HIL	History of Indian Literature
IGNCA	Indira Gandhi National Centre for the Arts. New Delhi.
K_1	Nāṭyaśāstra Ms. No. 323 vi 7, NGMPP, National Archives, Kathmandu, Nepal
K_2	Nāṭyaśāstra Ms. No. 316 vi 6, NGMPP, National Archives, Kathmandu, Nepal
K_3	Nāṭyaśāstra Ms. No. Dvi 215, NGMPP, National Archives, Kathmandu, Nepal
K_4	Nāṭyaśāstra Ms. No. 5-996, NGMPP, National Archives, Kathmandu, Nepal
K_5	Nāṭyaśāstra Ms. No. 1-305, NGMPP, National Archives, Kathmandu, Nepal
K_6	Nāṭyaśāstra Ms. No. 1-173, NGMPP, National Archives, Kathmandu, Nepal
KEWA	Kurzgefasstes Etymologisches Wörterbuch des Altindischen
KM	Nāṭyaśāstra edn., Kāvyamālā 42. [Nirṇayasāgara Press], Bombay, 1894
KM_2	Nāṭyaśāstra edn., Kāvyamālā 42, 2nd and revised edn. of KM [=KM_1] Bombay 1943
KŚS	Kātyāyana-Śrautasūtra
KSS	Nāṭyaśāstra edn., Kashi Sanskrit Series 60. Varanasi 1929/^{2}1980
KSS_2	Nāṭyaśāstra edn., Kashi Sanskrit Series 215, Vol. IV. Varanasi 1985
l	little finger
m	middle finger
M	Nāṭyaśāstra Ms. No. R. 2930, GOML, Madras
Mbh.	Mahābhārata
MW	Monier-Williams' Sanskrit-English Dictionary
N	Nāṭyaśāstra Ms. No. R. 5271, GOML, Madras
NGDMM	*The New Grove Dictionary of Music and Musicians*. Ed. S. Sadie, Vol. 9. London 1980.
NGMPP	Nepal-German Manuscript Preservation Project
ni	*niṣkrāma*
NŚ	Nāṭyaśāstra
P	Nāṭyaśāstra Ms., No. 68, BORI, Poona, India
pra	*praveśa*
PSS	Nāṭyaśāstra edn. Parimal Sanskrit Series 4, Vol. IV. Delhi 1984/^{2}1989
PW	Böhtlingk's/St. Peterburg's Sanskrit-Wörterbuch
Rām.	Rāmāyaṇa
I	index finger
r	ring finger
ṚV	Ṛgveda
śa	*śamyā*
saṃ	*sannipāta*
ŚBr.	Śatapatha-Brāhmaṇa
SR	Saṅgītaratnākara
S.Rāja	Saṅgītarāja

tā	*tāla*
Transl.	Translation
unr.	unreadable
vi	*vikṣepa*

GENERAL ABBREVIATIONS

BCE	Before Common Era
ca.	circa
ch.	chapter(s)
CE	Common Era
c.r.	common or corresponding reading(s)
ed.	editor(s)
edn.	edition(s)
f.	and the following
ff.	and further
l.	line
ll.	lines
Ms.	Manuscript
Mss.	Manuscripts
n.	note
nn.	notes
om.	omission or omitted
p.	page
pp.	pages
r.	recto
Skt.	Sanskrit
v.	verse, verso
vol(s).	volume(s)
v.r.	variant reading(s)
vv.	verses

Preface

The notion of studying the ancient *tāla* system originated at the Rotterdam Music Academy (Rotterdams Conservatorium), where being a teacher as well as a student in the department of Indian music, I came up with the idea of combining my training as an Indologist with my passion for Indian drumming. I was advised by Joep Bor and Wim van der Meer to prepare a practical handbook on *tāla* that could be used by the students of the Conservatory, but I became increasingly interested in the historical aspects of Indian drumming and ancient rhythmic theory. As a student of classical Indology, I was naturally attracted by the musicological sources in Sanskrit and other Indian languages. Since the fundamental role of *tāla* in music, dance and drama is generally treated in ancient, medieval as well as modern sources, the plan that presented itself was to write a historical outline of the rhythmic organisation of ancient Indian music, comprising a chronological study of primary sources, which span almost the whole range of cultural history of South Asia. For this purpose we have at our disposal the vast area of Indian literature, but in particular the unique literature on Indian musicology, which roughly covers a period of about two millennia. I would of course have to restrict myself to a number of sources, mainly in Sanskrit and Dravidian languages,[1] representative of a number of music-historical periods. By studying a selected number of concepts and their changes in the course of a number of periods, an attempt would be made to trace the historical development of the rhythmic system. A historical and philological analysis of terms and concepts would thus constitute the core of the study. The proposal for this project was accepted and funded for four consecutive years (1993-7) by the Netherlands Organisation for Scientific Research (NWO).

Apart from the time-consuming fieldwork carried out in India (1995-6), some unexpected problems occurred along my way, which delayed the completion of the study. In this regard, mention should be made of the textual traps in the Nāṭyaśāstra (ca. 300 BCE - 300 CE) and the Abhinavabhāratī eleventh century commentary. As these works are available in a number of editions, though none of them being critical, it could not be foreseen that they would turn out to be unreliable for my project.[2] The laborious process of reading and reconstructing the two texts during the initial years of the study, consumed much of the time at my disposal so that finally not much time was left for studying the medieval and modern periods. Subsequently it had to be decided to cut the scope of the study. The work nevertheless remains historical and firmly based on philological research, but instead of describing all the stages of development, it focuses primarily on the earliest period. The two extant sources from that period, *viz.* the Nāṭyaśāstra and Dattilam, provide rich materials and enough challenges to make up an entire monograph on the rhythmic organisation of ancient Indian music. This does not mean that the developments in subsequent periods (i.e., from the early medieval period onwards) have not been considered at all. On the contrary, they have been amply studied, though they are discussed only secondarily for the purpose of comparison and to indicate how matters developed in subsequent periods.

---

[1] For studying the rhythmic system of South Indian (Karnāṭak) music, there is ample material available in both Sanskrit - traditionally the pan-Indian medium for scholarly writing - as well as in the Dravidian languages of the South. Most of it dates from around the middle of the second millennium CE, the period when the South Indian music as well its rhythmic system emerged in their most characteristic forms. Both classes of sources do not seem to deviate very much from each other as regards form and content of the older music and rhythm.

The rhythmic system from the South is rather well studied, as it happens to be better documented than its northern counterpart. As some of the important Dravidian sources are readily available in modern translations, it makes the study of South Indian rhythm much easier for us. Though admittedly few in number, the Sanskrit sources (like Bharatārṇava, etc.) also enable us to study this system fairly well.

[2] Isaacson's general warning 'not to accord the editions we have more authority than they deserve' (1995, iii, n. 7) certainly applies to the bulk of Sanskrit musicological literature.

Though scholars agree that the Nāṭyaśāstra and the Dattilam are contemporaneous works, the debate continues as to which of them is older. It is anyway clear that the former is the largest and most complete source for that period. On that account, one could assume as a working hypothesis, though without entering the debate, that the Nāṭyaśāstra perhaps represents the earliest extant source on rhythmic organisation.[3] In the course of this study I occasionally draw attention to fresh evidence that corroborates the view that the Nāṭyaśāstra precedes the Dattilam on certain points of rhythmic theory, or that the latter seems to represent a slightly later phase of development. The present study is therefore based primarily on the Nāṭyaśāstra, also because thus far it has not attracted as much attention as the Dattilam. However, this does not mean that the Dattilam has been excluded altogether; it was hardly possible to ignore it. For a complete picture of the ancient period, as well as for the sake of comparison, it had to be consulted on a regular basis, particularly at times when the description of certain notions in the NŚ remained obscure or inconclusive.

Because of the pressure of time, the materials in the NŚ had to be limited to a workable proportion. In this respect, the scope of the present study has been restricted to theoretical matters alone. In the analysis of the *tāla* chapter (see ch. 1), I have made a rough distinction between theoretical and practical sections. In the light of retaining the integrity of *tāla* theory, I have not compromised on theoretical issues, but rather on the numerous song-examples provided in this chapter to illustrate the application of *tāla*, as well as on the numerous structural components (*aṅga/vastu*) by means of which these structures were composed. This restriction thus means that the edition and translation of the entire musical repertoire comprising Āsārita-s, Vardhamāna-s, Gītaka-s, Catuṣpadā-s, Lāsyānga-s, Pāṇikā, Ṛg, Gāthā, Sāman, etc., have not been included in this dissertation.[4] Because of this restriction, Chapter 2 therefore contains the edition and translation of only the first part of the *tāla* chapter, which treats the basic notions and principles of the *tāla* system. Other theoretical passages have been discussed (with or without translations) in the body of the work.

Despite these adjustments, the study of the ancient system remained more arduous than expected. The treatment of the *tāla* system in the NŚ is unfortunately far from being lucid. What adds to the problem is the relatively unsystematic exposition of the text, leaving aside the fact that the notion of *tāla* in ancient music is extremely complex. Although this feature may be a common problem of the text, clearly discernable in many other chapters, the assumed lucidity of the original text has been blurred by corruptions such as numerous lacunae, dislocations, interpolations, misprints, etc., which have crept into the text, not to mention those problems caused by bad editing alone.

Another problem is posed by the fact that a considerable amount of primary and secondary materials on rhythm have been scattered over the chapters on *tāṇḍava* (dance), *pūrvaraṅga* (preliminaries), *tata* (lutes), *dhruvā* (songs), and *avanaddha* (drumming). In fact, the main issues treated in all these chapters are naturally linked to one another by the aspect of rhythm (*tāla*). Thus for a comprehensive and coherent picture of the *tāla*-system it is necessary to sort out these materials and study them in their proper contexts. Even though our focus has been the *tāla* chapter, whenever required we have indeed made comparisons with pertinent sections from other chapters.

---

[3] For an update of this debate, see Mukund Lath 1978, 1-35.

[4] The author of these pages has already prepared a manuscript of the entire *tāla* chapter (edition and translation), which he intends to publish in the near future.

The NŚ is a typical descriptive and prescriptive work that does not really analyse or reflect upon the system it describes, nor upon its function, purpose, or other theoretical aspects. Given the style and nature of the text, matters are hardly ever defined or described in clear-cut terms. However, when occasionally an attempt is made, it usually appears to be incomplete - raising more questions than offering solutions. Moreover, the lengthy description of details and related matters has rendered the treatment so complex and puzzling that one can hardly see the wood for the trees, as it were. Accordingly, one has to bring order to the plethora of materials by abstracting and gathering the essential data scattered all over the text, and reconstructing the pertinent situations, notions or definitions.

Apart from the textual problems, there are several theoretical as well as practical aspects of the rhythmic system which are still shrouded in obscurity, whereas its practice has largely become obsolete for more than a millennium so that it has become almost impossible to verify the theory as recorded in the Nāṭyaśāstra. A reliable description or reconstruction, entirely based on the earliest textual sources, remains our highest priority, though at times when they remain helplessly obscure or inconclusive, it may be advisable to consult some of the medieval sources which include useful summaries of the ancient rhythmic system.

Since Bharata, the alleged author of the Nāṭyaśāstra is rather evasive and not very clear on numerous points, Abhinavagupta usually offers serious thought to those matters, though his ideas do not necessarily reflect that of Bharata. Nevertheless, I occasionally consider his illuminating insights on those matters because once it is possible to strip off his idiosyncrasies, Bharata's underlying ideas sometimes emerge on the surface. Apart from numerous small fragments on *tāla* scattered throughout the voluminous commentary, there are three important passages in the musical section where Abhinavagupta's main ideas on rhythm are concentrated, *viz.* the introductory discussions at the beginning of Chs. 28, 31 and 34 (GOS edn.). A careful study of these passages enables one to reconstruct Abhinavagupta's main ideas and unique contributions to *tāla* theory. As for the Saṅgītaratnākara (13th century), the fifth chapter, which is on *tāla*, has also been consulted at times to clarify doubtful matters. In this regard, the frequent references to Abhinavagupta's Abhinavabhāratī (11th century), Śārṅgadeva's Saṅgītaratnākara (13th century) and Kumbhā's Saṅgītarāja (15th century), are sufficiently justified, particularly in bridging some of the gaps in the ancient system, and in getting a more coherent idea of the entire system, as well as in displaying the magnitude of the changes it endured through the centuries.

Furthermore, a comparison of some of the most striking features with those from the modern rhythmic systems, proved quite enlightening. For example, my inquiry into the ideas of polyrhythm and cyclicity of time has benefited from relating them to their modern counterparts in contemporary music. Nevertheless, it should be cautioned that any direct linkage suggested between the ancient, medieval and modern systems would be no more than a working hypothesis, based on similarities such as those involved in the use of a common set of terminology and concepts. There are also numerous terms and notions from the ancient system, which cannot be explained through the modern systems, and *vice versa*. All in all, these cautious comparisons may place *tāla* in a better perspective and contribute towards bridging the theoretical gaps between the various stages of its development where no textual material is available or where the sources are silent or ambiguous.

A notable advantage of the change in the original plan of the present work, is that the rhythmic system from the ancient period can finally receive due attention. This phase of Indian rhythm has remained obscure for several reasons, but primarily because its most important source, *viz.* the *tāla* chapter from the Nāṭyaśāstra, constitutes one of the most impenetrable parts of the entire work. As a matter of fact, the entire section on music (NŚ 28-33) has hardly attracted any attention from a score of editors who have obviously been more interested in the preceding chapters, which deals with classical matters such as theatre, poetry, drama and the like.

It should be realised that the study of the *tāla* chapter cannot be carried out in isolation. The chapter presupposes a profound understanding of ancient music, dance and drama. In other words, the understanding of any individual chapter (or topic) from the Nāṭyaśāstra, usually presumes the same for adjacent or other chapters. I have therefore made numerous excursions to different chapters to study pertinent passages which have a bearing on *tāla* theory.

It is also true that students of ancient Indian theatre, who read the initial (five) chapters of the Nāṭyaśāstra, if they are still unfamiliar with the technicalities of the performing arts, are often bewildered by the numerous references to music and dance, and particularly by the frequent mention of ambiguous *tāla* related technical terms such as, for example, *āvāpa*, *niṣkrāma*, *vikṣepa*, *praveśa*, *śamyā*, *tāla*, *sannipāta*, *cañcatpuṭa*, *cācapuṭa*, *pañcapāṇi*, *laya*, *yati*, *pāṇi*, and so on.[5] Especially the chapters on dance, drama and music are invested by many of these as well as other terms. A prologue to the *tāla* chapter is therefore unmistakably a *sine qua non* for any attempt to read the text. From that perspective the present volume should be seen as the first attempt at presenting a clearer picture of the earliest and most comprehensive source on *tāla*.

Due to the fundamental nature of the present study, there are numerous areas where its results can be applied, such as, for example, the history of Indian music and musical instruments, philosophy of time, aesthetics of music and rhythm, evolution of Indian prosody, etc.

Moreover, the limited nature of the present study leaves ample scope for further enquiries into this field, such as, for example, the impact of external influences on the origin and evolution of *tāla*. As a matter of fact, it is difficult to deny that several notions from *tāla* have been influenced by linguistics, prosody and the philosophy of time. It is even likely that some of these influences were reciprocal, as for example, between dance and *tāla*, drama and *tāla*, and especially between prosody and *tāla*, because an alleged relationship between musical and poetical metre seems to be implied or suggested by most of the musicological and metrical sources, though the Nāṭyaśāstra seems to deny this. Also notable is the influence of philosophical thinking on rhythmic discourse; several temporal notions from music and rhythm - embodied in the *tāla* system - show a close resemblance to their counterparts in Indian philosophy concerning time and action.

Apart from a detailed description of the text and contents of the *tāla* chapter, attention is also paid to the *tāla* system itself as performed during the prelude of ancient Indian theatre (*pūrvaraṅga*). Its various structures, components, and applications in musical performances have been studied, the gist of which has been presented in chapters 3 to 9. Besides, I have also explored a number of important theoretical aspects of *tāla* such as, for example, its methods of creating rhythmic variation, e.g., by way of expansion, acceleration, deceleration and cyclical progression.

The approach adopted by me is primarily descriptive and analytical. As I depend almost completely on original texts, the main part of this work consists of philological and text-critical discussions, sometimes balanced by a more analytical and interpretative approach. A reconstruction of the text has been prepared primarily on the basis of the so-called longer version of the NŚ. For this purpose, I have utilized the existing editions as well as three old palm leaf manuscripts from Nepal and several paper manuscripts from India and Nepal. Ultimately a workable reconstruction and a translation of the text have been obtained, and they underlie my analysis of the ancient rhythmic theory.

---

[5] This only corroborates the idea that actors were supposed to be acquainted with, or even have a full mastery of, the technicalities of the performing arts.

The discussion of *tāla* involves numerous technical terms such as *akṣara*, *guru*, *kalā*, *mātrā*, *laya*, *mārga*, *yati*, *pāṇi*, and so on. The English rendition of some of them may sometimes cause difficulties. For example, when should *tāla* be translated as rhythm and when as metre, etc. Issues of this nature are often decided pragmatically depending on the context, but more often the problem is avoided by leaving the words untranslated. A similar problem occurs in the general use of technical English terminology such as rhythm, metre, tempo, beat, pattern, bar, measure, measurement, etc. For a non-musicologist, their application is not always easy. Due to the pressure of time and space, I therefore abstain from entering the ongoing debates on matters such as that of metre vs. rhythm, tempo vs. rhythm, and so on, and refer to recent works, which have taken up these as well as other issues more ably.[6]

Certain matters, already dealt by other scholars, may appear to be repeated here, though admittedly from a different perspective. Bharata's treatment of *tāla* is original and fundamental and on that account certainly deserves an independent approach. The passage from the Nāṭyaśāstra that I have singled out for a thorough study of the *tāla* system, constitutes the font for all subsequent writings on *tāla*. It required a fresh translation and analysis because earlier attempts proved to be either outdated or inadequate. Some scholars who have occasionally translated and/or discussed some of the verses from our passage, have often presented them in a secondary manner, only to underscore similar ideas from later sources such as the Dattilam, Saṅgītaratnākara, etc. I have therefore not always acknowledged each and every scholar who has translated or interpreted certain verses I deal with. To some extent this has also been a practical policy, to avoid unnecessary polemics and trivial discussions on differences of readings and interpretations.

In recent decades, Sanskrit musicology has indeed made great progress and some encouraging results have been achieved in explaining several aspects of ancient Indian music, including that of certain terms and notions of *tāla*. The writer of these pages therefore acknowledges that without their contributions, which paved the way for further research, he would not have been able to present his studies on the Nāṭyaśāstra and Indian rhythm.

In this regard I wish to express my profound gratitude to Prof. Premlata Sharma who took great pains and pleasure in reading with me the entire *tāla* chapter of the Nāṭyaśāstra and the accompanying Abhinavabhāratī. Despite her feeble health she organised regular meetings at her residence on alternating days for about eight months during my fieldwork in Varanasi (1995-6). Her inspiring guidance and comments infused me with confidence and conviction in judging delicate musicological matters. Unfortunately, she did not live on to see the completion of this work. I am also indebted to my Nepali friends Dr. Balgopal Shrestha and Prof. Kashinath Tamot from Tribhuvan University, Nepal, who kindly obtained manuscript copies for me from the Nepal-German Manuscript Preservation Project, National Archives, Kathmandu, Nepal. I should also like to thank Prof. N. Ramanathan for arranging for manuscripts from the Government Oriental Manuscript Library, Madras. The Sanskrit manuscript libraries in Poona and Baroda have kindly permitted me to copy or photograph certain works.

Last but not least, my gratitude goes to my wife Elizabeth and son Satyakām, because without their patience and sacrifice this work would certainly have been called off long ago, but evidently it has been saved, especially thanks to my son's relentless and proverbial encouragement with the words 'Ga aan je proefschrift werken papa!'

Leiden, January 8, 2003

---

[6] Cf. David Epstein 1995, 47-57, and Martin Clayton 2000, 27-42.

Introduction: scope of the present study

Ever since scholarly writings on Indian[7] music commenced around the end of the 19th century, much has been written on its rhythms and rhythmic organisation (*tāla*), yet still very little is known about their earliest forms and the evolutionary processes through which they passed before reaching their present forms.[8] The main factors responsible for this lacuna seem to have been (I) the non-availability of critical editions and the impenetrable nature of the Nāṭyaśāstra, our most important source on *tāla*, and (II) the relative lack of scientific interest in this field.

(I) Although the extant sources on *tāla* (as well as those on *svara*) from the early periods are readily available in various editions, it has to be regretted that these texts still remain in bad condition. This is especially true for the Nāṭyaśāstra,[9] which, though it has has been the fount for rhythmic theory up to at least the 15th century,[10] is still in a shambles, despite the remarkable history of trial and error in editing its text. Its principal editions are highly unreliable because they present either the virtually unedited text of one particular version,[11] or a heterogeneous text, which mechanically zips up different versions on eclectic principles (and is hardly supported by a single manuscript). The other source dating from the early period, the Dattilam,[12] is in a less bad condition, though it is based on a rather poor transcript of the text. The Abhinavabhāratī (11th century) and Bharatabhāṣya (12th century), two important early-medieval works, are unfortunately also based on one single and very corrupt manuscript or transcript, that renders numerous passages, especially those from the Abhinavabhāratī, almost impenetrable and obscure. The Bharatabhāṣya is only partly edited, and its section on *tāla* has somehow been diffused over a number of chapters which yet have to be edited. Another source that deserves special mentioning, is the Bṛhaddeśī (ca. 8th century),[13] because it represents an important transitional phase between the early and the medieval periods. Most unfortunately, its *tāla* chapter seems to have been lost forever. Thus, the lack of truly critical editions of most of these works constitutes one of the major obstacles on the road of *tāla* studies.

---

[7] The adjective 'Indian' should be understood as referring to the broader geographical and cultural region of south Asia or the Indian subcontinent. This region includes the modern nation-states of India, Pakistan, Bangladesh, Nepal, Sri Lanka and Afghanistan. Cf. Powers 1980, 69.

[8] Cf. E. te Nijenhuis 1974, 77: ".....an exhaustive study of the history and technique of Indian drumming still remains to be written."; Wim van der Meer 1980, 6, n. 1: "Relatively little has been written on *tāla*..."; M. R. Gautam 1989, 221: "A survey of the modern literature on Indian music reveals that very little research has indeed been done in the field of *tāla*" (Chaudhary 1997, xiii).

[9] The Nāṭyaśāstra has been the most difficult text to put a date on in Indian musicology. Powers (1980, 77) and R. Widdess (1981, 481; 1995, 4) relate it to the Gupta period (ca. 4th to 6th centuries CE). E. te Nijenhuis (1970, 2) and M. Lath (1988, xiv), however, favour an earlier date: E. te Nijenhuis places its composition between the 1st century BCE and 1st century CE, and Lath moves the upper limit towards the 2nd centuries CE.

[10] Kumbhā's *Saṅgītarāja* (ca. 1450) is partly based upon the NŚ as attested by the numerous references to and comments on the latter (*passim*).

[11] Or, 'recension' as some would say. See further § 1.2.1.

[12] As to the Dattilam, Lath (1988, xiv) and Widdess (1995, 4 f.) place it in the same time-bracket as the Nāṭyaśāstra. Paranjape (1961, 470 f.) places it in the 7th century.

[13] Mataṅga's Bṛhaddeśī is placed by Lath (1988, xiii) and Paranjape (1961, 448) in the 7-8th centuries. Powers (1980, 77 f.) places it in the 8th or 9th centuries and Widdess (1995, 11) fixes its upper limit to the latter half of the first millennium (CE).

(II) A survey of modern research on Indian art-music shows that compared to the melodic system, *tāla* has attracted much less scholarly attention.[14] The limited interest for the study of rhythm is reflected in the inverse proportional ratio of research carried out on tones (*svara*), microtones (*śruti-s*), modes, melodies (*rāga*), etc. Furthermore, the research on tones and microtones, though generally of a decidedly speculative nature, had already taken impressive shape towards the end of the 19th century,[15] while that on rhythm as an independent object of research, was to be initiated only in the second half of the 20th century.[16]

This indifference is all the more surprising when it is realised that from all the dimensions of music and dance, *tāla* has unequivocally been acknowledged by Indo-musicologists to constitute the very backbone of singing, music and dance, even as one of the most complicated and artistic of all existing systems.[17] Because, "in the sophistication of the art, in the complexity of criss-crossing rhythm and in the wide range of time measure, it has no parallel and can be said to be the most distinctive feature that marks out Indian music as so different from any other."[18] Given the importance attached to rhythm in general, and in South Asia in particular, as the main factor in the performing arts to be assigned responsibility for coordinating, regulating or maintaining control over all aspects of the performance, it is obvious that this virtually unexplored area requires fundamental research.

Early writings on musical time usually relate to the modern practice of drumming, whereas the ancient notions and theories were hardly touched upon; the majority consist of superficial accounts of the contemporary *tāla* practice, along with discussions of technical terms and comparisons with other systems of measuring time, including lists of prevalent and obsolete patterns. Speculations on the origin of *tāla* continued with early writers such as Sir William Jones,[19] N. A. Willard,[20] F. J. Fétis,[21] and so on, and a comparison with Sanskrit (and Greek) prosody remained a favourite topic.[22]

Around the nineteen-sixties, interest in *tāla* received a new impulse as musicologists started to realise that besides checking and supporting the performance rhythmically, *tāla* could also enhance it aesthetically. This change in awareness seemed to coincide with a sudden and spectacular increase of appreciation and popular interest in Indian drumming. It should be conceded that the intimate relationship between *tāla* and drumming is not only a historical fact, but most impressively demonstrated during public performances of classical

---

[14] This is evident from the relatively small number of monographs on *tāla*, which perhaps is "not more than five percent of the total work on various aspects of Indian music" (Chaudhary 1997, xiii). Even works bearing a title suggestive of treating the whole area of Indian music, often ignore *tāla* completely. Cf. most of the works of, e.g. R. Simon, S. M. Tagore, V. N. Bhātkhaṇḍe, Swami Prajñānānada, Thakur Jaideva Singh, V. Raghavan, A. Daniélou, etc.

[15] See for example, the various articles collected in S. M. Tagore 1875.

[16] Cf. Chaudhary 1997, xiii.

[17] Cf. C. Sachs 1952, 105: "No other civilization is India's equal in drum playing"; E. te Nijenhuis 1974, 60: "During the last two thousand years Indian rhythm [...] has developed the most elaborate and intricate systems that confuse even the trained ear of a Western musician." See also A. Daniélou 1970, 67; 1975, 71; B. C. Deva 1978, 68; see also Ābān A. Mistrī 1984, 2.

[18] Peggy Holroyde 1972, 200.

[19] William Jones 1990, 123-60.

[20] N. Augustus Willard 1990, i-ix, 1-122.

[21] See F. J. Fétis 1869, 224-44.

[22] William Jones, for example, speculates that "time and measure are determined by the prosody of the verse, and by the comparative length of each syllable." (*op. cit.* p. 140). See further F. J. Fétis (1869, 224 ff.); E. Felber (1912); H. Fox Strangways (1914); Krishna Dhan Banerjee (1885-6); Curt Sachs (1953); K. Annapurni 1955; Subodha Nandī's *Bhāratīya Saṅgīte Tāla o Chanda* ('Rhythm and Metre of Indian Music.' [Bangali]), Calcutta 1969; A.K. Sen (1973) S. Caudhary (1984; 1997).

Indian music and dance. Due to the increasing number of such performances in the West, a popular appreciation for the charming intricacies of Indian drumming, and thereby also for *tāla*, could not not remain absent for long. This resulted in a galaxy of works describing the prevalent theory and practice of drums such as the tablā, the pakhāvaj and the mṛdaṅga.[23]

---

[23] The list given below, is far from exhaustive. There certainly exist more and perhaps older works on the subject, which have not come to our notice, some of which are only known by their references in other sources. C. R. Day (1891, 160), for example, mentions "A Treatise on the Mridanga" by S. M. Tagore, which he describes as a work on drum playing, rhythm &c. This work is apparently the *Mṛdaṅga Mañjarī* (Calcutta ^{2}1902) of the same author, i.e. Saurīndramohan Ṭhākura (see A. K. Sen 1973, 417). There is also mention of Mādhavarāv Alakuṭakara's *Mṛdaṅgavādana* (*op. cit.* p. 418) and of Prosanna Kumar Vanikya's works on tablā andpPakhāvaj.

Works on *tāla* and drumming: John Baily, *Krishna Govinda's Rudiments of Tabla Playing.* Llanfynydd 1974; Bhagavāndāsa & Ramaśaṅkara 'Pāgaldāsa', *Mṛdaṅga-tablā Prabhākara* [Hindi]. Hathras. Vol. 1, ^{4}1976, Vol. 2, ^{3}1977; Robert. E. Brown, "The Mṛdaṅga: A Study of Drumming in South India." Vols. I-II (Ph.D. diss., Univ. of California, Los Angeles 1965; Govindrāo Burhāṇapurkar, *Mṛdaṅga aur tablāvādana subodha* [Hindi]. 3 vols. Burhanpur [n.d., see Gokhale p. 585]; *Bhāratīya Tālamañjarī*. Burhanpur [n.d., see Chaudhary 1997, 488]; Ghanaśyām Dās 'Pakhāvajī', *Mṛdaṅga Sāgar* [Bangali]. Bombay 1911; Puruṣottama Dās, *Mṛdaṅga-vādan* [Hindi]. New Delhi 1983; Prabhulal Garga, *Tāla aṅk* [Hindi]. Hathras; *Mṛdaṅga aṅk* [Hindi]. Hathras n.d.; Pt. Nikhil Ghosh, *The Art and Science of Traditional Tabla.* Bangalore 1987; Robert S. Gottlieb, *The Major Traditions of North Indian Tabla Drumming*. 2 vols. Munich-Salzburg 1977 [Reprinted as *Solo Tablā Drumming of North India: Its Repertoire, Style and Performance Practice*. Delhi 1993]; J. Hartenberger, "Mṛdaṅgam Manual: A Guidebook to South Indian Rhythm for Western musicians." (Ph.D. diss., Wesleyan Univ., Middletown, Conn. 1974). Ann Arbor 1979; T. S. Raghav Iyer, *Advanced Lessons on the Art of Mirudangam* [n.p./n.d.]; Tinnian Venkatarama Iyer, *The Art of Playing Mridangam: A Percussion Instrument in Karnataka Music.* Madras 1969; D. K. Jośī, *Bhajanī Mṛdaṅgavādana* [Marathi]. [n.p./n.d., see Gokhale p. 581]; Narayan Joshi, *Adital: Thirakwan Shaili* [Hindi]. Dombivli 1982; M. Junius, *Die Tāla's der Nordindischen Musik.* München 1983; V. R. Kāḷe, *Mṛdaṅgavādana* [Marathi]. Part 1 (see Gokhale p. 579); James Kippen, *The Tablā of Luckhnow: A Cultural Analysis of a Musical Tradition*. Cambridge 1988; Mannūjī Mahārāj, *Tāladīpikā*. Varanasi. Part I *saṃvat* 1988, Part II [n.d.], Part III 1934, Part IV 1953; Lālamaṇi Miśra, *Tablā-vijñān*. Kanpur *saṃvat* 2007.A. Mūlgā̃vkara, *Tablā* [n.p./n.d., see Gokhale p. 587]; Subodha Nandī, *Tablāra Kathā* [Bangali], 2 vols. Calcutta 1963; Ramaśaṅkara 'Pāgaldās', *Tablā-kaumudī* [Hindi]. 2 vols. Gwalior ^{3}1982; Paṭavardhana & Balvantrāo Vaidya, *Tablā-mṛdaṅgapaddhati* [Marathi], 2 vols. Poona 1949; Vināyakarāo Peṇḍārkar, *Tablāvādana* [Hindi]. Bombay 1947; Dharmamala Ramamurthy, *The theory and Practice of Mridanga.* [n.p.] ^{2}1987; David Roach, "The Benares Bāj - The Tablā Tradition of a North Indian City." *Asian Music* 3, part 2, 1972, 29-41; Donald Robertson, *A Rhythmic Introduction to Indian Music: Tabla*. New York 1968; P. Sambamūrthy, *Laya Vādyas.* Sangita Vadyalaya Series, Vol. 2, N. Delhi 1959; Bhagavatasharan Sharma, *Tāla prakāśa* [Hindi]. Hathras 1970; ^{5}1973; *Tālaśāstra.* Aligaḍha 1977; *Tāla Mimāṃsā* [Hindi] Part 1 & 2. Ilāhābād 1975; T. R. Harihara Sharma, *The Art of Mridhangam*. Madras 1969; Frances Shepherd, "Tabla and the Benares Gharana." Ph.D. diss., Wesleyan Univ. 1976; G. C. Śrīvāstava, *Tāla Paricaya* [Hindi]. 2 vols. Ilahabad ^{9}1980; Rebecca M. Stewart, "An Examination of the Benares School of Tablā Performance." M.A. Thesis, Univ. of Hawaii 1965; Yogamāyā Śukla, *Table kā Udgam, Vikāsa aur Vādana Śailiyā̃*. Delhi 1987; Usamankhan Sultankhan, *Tālapaddhati* [Hindi]. Baroda 1933; Sudhir Kumar Verma, *The Art of Tabla Playing*. Lucknow 1990; Bhṛgunātha Varmā, *Tālamañjarī*. Calcutta ^{3}1975; Satyanārāyaṇa Vaśiṣṭha, *Tāla Mārtaṇḍa* [Hindi]. Hathras 1955, ^{5}1977; *Table par Dilli aur Purab* [Hindi]. Hathras [n.d.]; *Kāydā aur Peśkār* [Hindi]. Hathras ^{4}1981; Ram Avtar 'Vir', *Learn to play on Tabla.* N. Delhi 1977; G. M. Wegner, *Die Tabla im Gharana des Ustad Munir Khan* (*Laliyana*): Studien zum Trommelspiel in der nordindischen Kunstmusik. Hamburg 1982, etc.

In due time when scholarly interest was extended towards more historical problems, we find - from the sixties onwards - important contributions of a more analytical nature.[24] In this regard substantial contributions to the study of *tāla* came with the edition and study of a number of texts such as the Nāṭyaśāstra,[25] Dattilam,[26] Saṅgītaratnākara,[27] Nartananirṇaya,[28] Saṅgītaśiromaṇi,[29] Saṅgītanārāyaṇa[30] and to a lesser degree with that of the Saṅgītopaniṣatsāroddhāra,[31] Aumapatam,[32] Saṅgītamakaranda,[33] etc.

Special mention should be made of a number of important monographs, which are dedicated to *tāla*, either entirely, or to a great extent. The first attempt in this direction is Aruṇa Kumār Sen's *Bhāratīya tāloṅ kā śāstrīya vivecana* ('A Critical Discussion of Indian Rhythms') in Hindī (Bhopal 1973; ^{2}1989).[34] Besides discussing its concept, position, form, instruments, etc., the author pays considerable attention to the *tāla* system as described in a number of ancient works. Some years later, Ś. V. Gokhale wrote his voluminous *Laya-tāla-vicāra* ('Discussions on Rhythm and Tempo') in Marāṭhi (Bombay 1979), in which the author tries to explain rhythm and tempo in music from the scientific point of view of physics and dynamics. Thirdly, in 1984, Subhadra Chaudhary published her Ph. D. thesis *Bhāratīya*

---

[24] See for example, R. Rangaramanuja Ayyangar, *Analysis of the Melodic, Rhythmic and Formal Structure of Karnatic Kriti as Exemplified in the Kritis of Sri Syama Sastri, Sri Muttuswami Diksitar and Sri Tyagaraja*. Hawaii 1965; K.N. Bhowmick, "Meaning of *Sangat* and the Role of Tablā Playing." *Bharata Manisha Quarterly* Vol. 1, no. 2, 1975; S. Caudhary 1984; 1997; M. R. Gautam 1989, ch. VII; Ghosh, *Fundamentals of Rāga and tāla with a New System of Notation*. Bombay 1968; Jonathan Katz, "The Musicological Portions of the *Saṅgītanārāyaṇa*: A Critical edition and Commentary." Ph.D. Thesis, Oxford Univ., 1987; James Kippen and Bernard Bel, "Linguistic Study of Rhythm: Computer Models of Tabla Language." *International Society for Traditional Arts Research* (ISTAR) *Newsletter* 1984, 2, pp. 28-33; James Kippen, "The Dialectical Approach: A Methodology for the Analysis of Tabla Music." *Bulletin of the International Council for Traditional Music* 1985 (UK Chapter), 12, pp. 4-12; Josef Kuckertz, *Form und Melodiebildung der karnatischen Musik Südindiens*. Wiesbaden 1970, Vol. I, ch. II A; E. te Nijenhuis 1970; 1974, ch. III; 1981, 188-96; 1992; Hans Oesch 1984; H. Oka, *A Study of Tāla in Karnatic Music*. Tokyo 1960; H. S. Powers 1980, 118-25; A.K. Sen 1973, ^{2}1989; Winthrop Sargent & Sarat Lahiri, "A Study in East Indian Rhythm." *The Musical Quarterly* Vol. XVII, 1934; D. R. Widdess, "*Trikāla* - A Demonstration of Augmentation and diminution from South India." *Musica Asiatica* I, Oxford Univ. Press. 1977, 61-74; 1981, 481-508; M. Lath 1978; 1988; Ś. V. Gokhale 1979; N. Ramanathan 1994; 1997; 1999); L. Rowell 1982; 1986; 1992; 1995; R. Sathyanarayana 1994; P. L. Sharma 1987, 143-71; etc.

Note the following monographs published by the Percussive Art Centre, Bangalore: T. V. Gopalakrishnan, *Comparative Study of Hindustani & Karnatak Taala systems*. 1991; S. R. Janakiraram, *The Correct Understanding of some of the Taala Dasa Praanas*. R/1988; S. K. Ramachandra Rao, *Psychology of Laya*. 1988, R/1991; B. V. K. Sastry, *References to Taala Vaadyas in Kannada Literature*. 1987; Bipin Singh & Darshana Jhaveri, *Manipuri Tāla System*. 1990, R/1991; B. M. Sundaram, *Great Layavaadyakaaras of Karnatak music*. 1986; *Taalasangraha: Composition of Data for over 2000 Taalas*. 1987, etc.

[25] See M. Ghosh 1951 and 1961.

[26] See E. te Nijenhuis 1970 and M. Lath 1978 & 1988.

[27] See N. Ramanathan 1979; 1994 and R. K. Shringi & P. L. Sharma ^{3}1991 & 1989.

[28] See. R. Sathyanarayana 1994.

[29] See E. te Nijenhuis 1992.

[30] See J. B. Katz 1987.

[31] See Allyn Miner 1994.

[32] See Peter Vonessen 1996.

[33] See M. V. Lakshmi 1996.

[34] An abridged English translation of this work has appeared under the title 'Indian Concept of Rhythm' (Delhi 1994). The omission of many of the original footnotes, bibliographies, and other details, has rendered this translation less useful. I therefore prefer to refer to the Hindī original.

Saṅgīta meṅ Tāla aur Rūpa-vidhāna (with the subtitles: *Lakṣya-Lakṣaṇamūlaka Adhyayana* 'Form' in Indian Music).[35] This is a valuable work focusing on the rhythmical, metrical and compositional forms in Indian music. The most recent contribution in this regard has been Martin Clayton's *Time in Indian Music* (Oxford Univ. Press 2000).

However, the very first attempt to study *tāla* from the oldest period was initiated by Emmie te Nijenhuis (1970) and Mukund Lath (1978) with their studies of the Dattilam. As these studies have a textual and philological basis, they mark a new phase in further historical research in *tāla* as well as Indian musicology in general.[36] These are useful contributions to the study of the Indian rhythmic system, but as they primarily focus on the Dattilam, their contribution to the study of the Nāṭyaśāstra is only subsidiary. Because of the textual problems and obtuse nature of the latter, they usually follow the learned, though very corrupt Abhinavabhāratī (11th century) or the relatively lucid Saṅgītaratnākara (13th century). In practice this means that when relating to difficult passages from the Nāṭyaśāstra, they tend to relate first to the Abhinavabhāratī - Abhinavagupta's commentary on the Nāṭyaśāstra, and then to Saṅgītaratnākara, which drew from the Abhinavabhāratī. It is therefore evident that given the problems inherent in the Nāṭyaśāstra itself, isolated discussions of Nāṭyaśāstra passages on *tāla*, hardly contribute toward understanding the earliest phases of *tāla* history as reflected in the text. With a view to bridging this gap in the field of Indian musicology, I attempt in the present study to prepare a reliable ground for further historical research on *tāla* by systematically studying its earliest phase as laid down in the Nāṭyaśāstra. It should thus be concluded that even though *tāla* has received sufficient attention in the previous decades, the findings of modern studies do not always reflect the ideas of the NŚ, because they largely, if not solely, focus on later works such as the Dattilam, Abhinavabhāratī, Saṅgītaratnākara, Saṅgītarāja (15th century) and Saṅgītadarpaṇa (17th century). The situation in the ancient and archaic NŚ is predictably different, and an understanding of the ancient ideas as laid down in this work requires a different approach, including a closer study of its idiosyncrasies. It is exactly this lacuna that the present work tries to fill.

The present study explores the earliest phases of rhythmic organisation (*tāla*) in Indian music and focuses on some of its most compelling issues. In this regard, we have analysed *tāla* as containing a number of principles upon which its entire theoretical edifice is based. The foremost ones are those of measure and cheironomy. From a philosophical point of view, they represent time and action in music and are accordingly conceived of as interdependent and interchangeable notions. The main principle of measuring musical time seems to have been that time should be measured by means of action. To speak of time is virtually to speak of action, for action is time's intrinsic correlative. Motion is basically understood by using time as its index, but the reverse of the correlation is equally true: time is only experienced, and thus understood, through motion. Motion is thus the quintessential property of time.[37]

Even though time in music is a special case of time in general, its properties and characteristics are applicable to musical time.[38] In India the system of *tāla* cheironomy represents an artificial mechanism of motions designed to measure musical time, comparable to a clock, or perhaps better, the movements of a conductor's baton. For measuring time, cheironomical action itself needs to be controlled and organised. First, a number of manual gestures and beats are selected and defined, and then quantized or grouped into workable

---

[35] The English and improved version appeared as New Delhi 1997.

[36] This is marked by the works of N. Ramanathan (1979; 1999), L. Rowell (1988) and S. Chaudhary 1984; 1997.

[37] David Epstein New York 1995, 8 f.

[38] *Ibid.*, p. 10.

periods.[39] This procedure, governed by culturally determined preferences of rhythm and tempo, naturally results into the formation of popular metrical patterns: motion is thus divided into equal (periodic) units, which are known as the *tāla* measures.
Although drumming has been present in India since the dawn of Indian civilisation, the notion of measuring time does not seem to have been its main concern. It is only in the epic period (ca. 400 BCE) that the first signs of time measurement or the beating of time with the hands or sticks emerge. About half a millennium later, when the quality of the Indian brass was improved, the manual action of time measurement is (audibly) reinforced by a musical instrument, *viz.* the brass cymbals. On a structural level, we further discern the principle of expansion (or variation) by means of which the lines and phrases of musical compositions were structured. A main focus in this regard has been the historical development of different types of measures. From the practical point of view of function and purpose, these principles operate together as measuring, structuring, coordinating, supporting or organising factors, depending from which perspective one perceives the *tāla* system. From the perspective of modern musical performance, we also investigate whether the ancient *tāla* system was related to notions of aesthetics, cyclicity and polyrhythmicality.

Our prime source is the Nāṭyaśāstra (NŚ), which devotes an entire and rather hefty chapter (*i.e.* NŚ 31) to what we may call the *tāla* system. The present study is based upon this chapter, from which pertinent sections have been reconstructed, translated and commented upon. As for the presentation of the results, I have opted for casting the study of *tāla* into a semantic and analytical format that fully reflects my investigation of the various meanings the word *tāla* has in the NŚ as well as other sources. In this regard attention goes particularly to the historical development of notions and ideas.

The present study is divided into two main parts: the first one (comprising chs. 1-2) focuses on the textual aspects of the NŚ and the other (comprising chs. 3-9) on the analysis of the *tāla* system. Part I thus provides the philological basis for our further inquiry into the *tāla* system. The first chapter contains a twofold analysis of NŚ 31: one focusing on formal aspects such as topics and contents, and the other on text-critical matters such as, for example, the problem of textual divergences, etc. The second chapter contains a reconstruction and translation of a section of NŚ 31 that introduces the basic ideas and principles of the old *tāla* system.

In part II attention is fully focused on music-historical matters of *tāla* and *tāla* theory. After a brief examination of prevalent etymologies as well as a number of popular etymologies of *tāla* (ch. 3), the investigation moves to the numerous musicological meanings of the word, most of which still stand unrecorded in modern dictionaries. I have recorded at least fourteen different meanings, each of them referring to different, but eponymous notions. Cognate meanings have been grouped and discussed in separate chapters, which deal subsequently with the meanings related to gestures or cheironomy (ch. 4); to percussion instruments (ch. 5); to musical metre (ch. 6); to structuring or organising systems (ch. 7); to relative and absolute substrata of time, action and sound (ch. 8) and finally to a number of dynamic factors (ch. 9). The main findings of this study have formally been presented in a conclusion (ch. 10).

---

[39] Cf. Epstein, *Ibid.*, 9 ff.

PART I

The *tāla* chapter of the Nāṭyaśāstra (NŚ 31)

1. An analysis of NŚ 31

The following analysis of NŚ 31 falls into two sections: one focusing on formal aspects such as topics and contents, and the other on text-critical matters such as, for example, the problem of textual divergences, etc.

1.1 A formal analysis

1.1.1 Introduction: *tāla* topics

The *tāla* chapter is one of the few chapters in the NŚ that is furnished with a comprehensive list of topics.[40] However, the list is not presented in that chapter itself, but at the beginning of the music section of the NŚ (*geyādhikāra*). This corroborates the notion that the *tāla* chapter forms an integral part of the music section.

Gāndharva, a major musical genre from the classical period (ca. 300 BCE – 500 CE) and the main scope of the entire music section, is described as based on melody (*svara*), rhythm (*tāla*) and composition (*pada*).[41] Since *tāla* figures as one of the major constituent elements of Gāndharva, it is also accorded an entire chapter for its exposition. Accordingly, the author presents separate lists of topics for each of its constituent elements.[42] The list of *tāla* related topics is presented as follows:

> The wise ones know the performance (*vidhi*) of *tāla* to consist of twenty related [topics], *viz.* Āvāpa, Niṣkrāma, Vikṣepa, Praveśa, Śamyā, Tāla, Sannipāta, Parivarta, Vastu, Mātrā, Vidārī, Aṅga, Laya, Yati, Prakaraṇa, Gīti, Avayava, Mārga, Pādabhāga and Pāṇi.[43]

---

[40] Besides all six chapters (i.e. 28-33) of the music section, Chs. 1, 6 and 7 also may be said to have tables of contents.

[41] Cf. KM 28, 8ab *gāndharvam iti taj jñeyaṃ svara-tāla-padāśrayam.*

[42] The order indicated in the Gāndharva 'definition' is not followed in all versions of the text. KM and GOS, for example, enumerate first the topics related to melody and composition, and then those to rhythm.

[43] KSS 28, 15-6; KM 28, 19-21ab; GOS 28, 18-20; BI 28, 18-20cd. Our translation follows the BI edn., which substantially agrees with KSS:

[[1]*atas tālagatasyāpi sampravakṣyāmi vai dvijāḥ* |]
āvāpas tv atha niṣkrāmo vikṣepaś ca praveśakaḥ ||
śamyā, tālaḥ, sannipātaḥ, parivartaḥ, savastukaḥ |
mātrā, vidāry aṅga layā yatiḥ, prakaraṇaṃ tathā ||
gītayo 'vayavā mārgā pādabhāgāḥ, sapāṇayaḥ |
ity [2]*ekaviṃśako jñeyo vidhis tālagato buddhaiḥ* ||

[1]This line occurs only in KM, and appears to be superfluous since its substance is more or less repeated in the last line. Ghosh suggests to read *tālagatam api* ['Na' Vipulā!].

This list comprises a heterogeneous mélange of various topics from the realm of rhythmic organisation, which, along with other related concepts, are treated in detail in the body of the chapter.[44] In fact, not all the topics occurring on the lists in ch. 28 are treated in ch. 31; some are treated in other chapters (of the music section),[45] while others are hardly touched upon.[46] Furthermore, the topics that have received attention are not always treated in the same order as indicated in the enumeration in ch. 28.

The contemporary Dattilam largely follows this enumeration, whereas the Saṅgītaratnākara (13th century) adopts a more systematic approach.[47] It should be clear that the NŚ versions, as well as other sources from following periods, disagree on the exact number of *tāla* topics, as well as on some of their names. A brief survey[48] and comparison of the varying lists prove helpful in isolating topics which may have been added to the 'original' list later on, and eventually in reconstructing its oldest form. We shall confine ourselves to comparing the lists from the three main NŚ versions with those from the Datt. (vv. 110-12) and SR (1, 1, 44-8ab).

---

[2] Only the GOS enumerates 21 topics, whereas all other versions mention 20. I have tried to show below that Dhruva, an additional topic in GOS, is not authentic, and thus subscribe to Ghosh's suggestion to read *ity evaṃ viṃśo* instead of *ity ekaviṃsako* (see BI. Transl. 28, 18-20, n. 3). That even the latter number was not acceptable to some experts, appears from the v.l. *iti dvāviṃsako* 'Ḍa', 'Ra, 'Ja' (GOS mss.).

[44] In GOS, for example, the materials are treated in the following locations: Dhruva, cf. ch. 31, 38; 372 etc.; Āvāpa to Sannipāta, vv. 30-8; Parivarta, vv. 89; 265; 269; 335-7, etc.; Vastu, vv. 127; 189-202; 229; 240; 248; 275; 279-80, etc.; Mātrā, v. 52cd; Prakaraṇa, vv. 321-4, Aṅga, vv. 190-1; Vidārī, ch. 32, 17; Yati, v. 372; Laya, vv., 370; 375-6; Gīti, cf. ch. 29, 46-50; Avayava ?; Mārga, cf. ch. 31, 7; Pādabhāga: v. 52ab, etc.; Pāṇi, vv. 373-4, etc.

[45] E.g., Gīti in ch. 29; Mārga, Laya, Yati, Pāṇi, etc. in chs. 29 & 32-3; Vidārī in ch. 32. See also Lath 1978, 34.

[46] E.g. Parivarta, Vastu, Avayava, Pāṇikā (one of the 14 Gītaka-s), etc. Cf. Lath 1978, 34 f.

[47] It should be noted that the SR has abandoned the inferior order and presentation of the NŚ and Datt., and follows a much advanced and systematic arrangement of topics. The SR introduces three new categories (*i.e.* Eight Mārgakalā-s, Deśī-tāla-s and Pratyaya), while it has the remaining items more or less in common with the 20 or 21 topics of the NŚ and Datt. Rowell (1992, 191-3) adopts Dattila's list of 15 topics and relates it to the modern system of 'Ten Essentials of Rhythmic Organisation' (*tāladaśaprāṇa*).

[48] See also Mukund Lath's extensive analysis of the lists from the NŚ and Datt. (1978, 22-35), as well as Lewis Rowell's modern analysis in terms of *structural* topics, and those constituting the *infrastructure* and *suprastructure* of the rhythmic system (1992, 191-3; 1992b, 348-50).

Table 1 ***Tāla*** **topics**

	KSS	KM	GOS	Datt.	SR
			Dhruva		
1	Āvāpa	Āvāpa	Āvāpa	Kalā	Mārga tāla-s
2	Niṣkrāma	Niṣkrāma	Niṣkrāma		Kalā
3	Vikṣepa	Vikṣepa	Vikṣepa		Pāta (includes Dhruva)
4	Praveśa	Praveśa	Praveśa		Four Mārga-s
5	Śamyā	Śamyā	Śamyā	Pāta	8 Mārgakalā-s
6	Tāla	Tāla	Tāla		Guru-laghvādimāna
7	Sannipāta	Sannipāta	Sannipāta		Ekakala, etc.
8	Parivarta	Parivarta	Parivarta	Parivarta	Pādabhāga
9	Vastu	Vastu	Vastu	Vastu	Mātrā
10	Mātrā	Mātrā	Mātrā	Mātrā	Pātakalāvidhi
11	Vidārī	Pramāṇa	Prakaraṇa	Prakaraṇa	Aṅguliniyama
12	Aṅga[49]	Bīja	Aṅga	Aṅga	Yugma, etc.
13	Laya	Vidārī	Vidārī	Vidārī	Parivarta
14	Yati	Yati	Yati	Yati	Laya
15	Prakaraṇa	Laya	Laya	Laya	Yati
16	Gīti	Gīti	Gīti	Gīti	Gītaka
17	Avayava	Avayava	Avayava	Avayava	Gīta
18	Mārga	Mārga	Mārga	Mārga	Tālāṅga
19	Pādabhāga	Pādabhāga	Pādabhāga	Pādabhāga	Gītāṅga
20	Pāṇi	Pāṇi	Pāṇi	Pāṇi	Deśī tāla-s
21					Pratyaya

1.1.2 The issue of a *dhruva* beat (I)[50]

At first sight, the lists from the NŚ versions seem to agree fairly well with one another, except for the controversial occurrence of Dhruva on the GOS list and some minor differences of names and the order of presentation.[51] Surprisingly they seem to differ with the Datt., but a closer analysis shows that this disagreement is not real; in fact, there is complete agreement as shall be seen next. It is from the SR onwards, and presumably already starting with the BṛD, that the *tāla* topics diverge significantly from the earliest period with respect to number and contents.

In the versions of the NŚ the first seven items - or eight with Dhruva - constitute a set of movements or gestures of the hand (cheironomy), which play a fundamental role in marking musical time.[52] Āvāpa, Niṣkrāma, Vikṣepa and Praveśa are so-called silent gestures, whereas Dhruva, Śamyā, Tāla and Sannipāta are audible gestures or beats proper. These individual names do not occur on Dattila's list because the two categories of gestures are represented by their respective generic terms: Kalā and Pāta.[53] This factually means that the sum total of topics in the NŚ and Datt. is the same (*i.e.* 20, when Dhruva in GOS is not considered) because 7 topics in the former are compressed to two in the Datt. and other works.[54] However, since the NŚ does not use the generic terms, at least not in the list of topics,[55] one may infer that it represents an earlier phase of systematisation than that exhibited by the Datt. or SR.

---

[49] *°āṅgulayā* KSS

[50] The second part of this discussion, though from a different angle, occurs in § 5.4 below.

[51] For example, the names Pramāṇa and Bīja in KM correspond with Prakaraṇa and Aṅga in KSS, GOS and Datt.

[52] See further, ch. 4 below.

[53] In this regard, the SR follows the Datt.

[54] Here the complete agreement between the NŚ and Datt. indicates the relative closeness of both sources.

The most conspicuous difference between the NŚ and Datt. in this regard is that the latter does not mention the Dhruva beat, whereas only one version of the former, *i.e.* the GOS, includes it on the list of *tāla* topics. This phenomenon not only increases the sum total of topics from twenty to twenty-one,[56] but also disturbs a great deal of the agreement with the (presumably) older NŚ versions (*i.e.* KSS and KM) as well as with the Datt. This discrepancy casts doubt on the authenticity of the occurrence of Dhruva on the GOS list, and its presence in the earliest period altogether.

On the other hand, however, Dhruva is consistently mentioned in the *tāla* chapter (NŚ 31) of *all* versions,[57] where along with three other beats it is stated to constitute a group of four audible gestures. In stark contrast with its prominence on the GOS list in ch. 28, it is now enumerated as the seventh gesture, occurring just before Sannipāta, whereas its 'description' occurs only at the end after the seven 'authentic' gestures (*i.e.*, those mentioned on the KSS and KM lists) have been described. Most noticeable is also the fact that in the entire chapter there is no proper description of Dhruva as a beat; unlike the other gestures it is not defined as a specific movement of the hand or fingers.[58] Likewise the Datt. too does not mention or describe a *dhruva* beat.[59]

The two lines in KSS (vv. 39cd-40ab) where the word *dhruva* occurs twice are usually interpreted as 'defining' the beat. The fact that *dhruva* is enumerated among a group of four audible beats, forces one to interpret these two lines as describing *dhruva*, the fourth beat.[60] However, the first line, attested to only in the KSS version of the text,[61] appears to be a corruption, which originally may, or may not have comprised a description or explanation of *dhruva*. The second line, which occurs in all versions,[62] could be the *locus classicus* introducing the application of *dhruva*.

However, despite the evidence that argues in favour of accepting *dhruva* as a fourth beat, there are indications that in the earliest period *dhruva* could not have been used in the technical sense of a beat:

(1) The mention of the *dhruva* beat in the lists of *tāla* related topics is doubtful (See above, n. 43, subnote 2).

(2) The NŚ and Datt. do not describe a *dhruva* beat. Dattila explicitly mentions only seven gestures.[63]

---

[55] Some exceptions are perhaps places were *kalā* and *pāta* are compounded. Cf. KSS 31, 1 and 50 and KM 31, 46.

[56] See above n. 43, subnote 2.

[57] KSS 31, 29cd-40ab; KM/GOS/PSS 31, 30-8; BI 31, 30cd-40.

[58] Kumbha notes that Bharata did not define the *dhruva* beat (S.Rāja. 3, 3, 1, 62 *choṭikāṃ bharatācāryo na sasmarad*). See Ramanathan 1999, 86.

[59] Lath 1978, 23. The single occurrence of the word *dhruva* in Datt. v. 240cd relates to a fundamental *mārga* that lies at the basis of the other *mārga-s*. See further, §§ 2.6.2 and 6.2.4 below. Lath further reports that Vemabhūpāla, author of the Saṅgītacintāmaṇi, has noted the absence of *dhruva* in Dattilam (*ibid.*). He bases himself on the following passage: *atra kecid dattilādyā (dayaḥ) dhruvapātaṃ na manvate | tanmate tu kalā sapta, tābhis tālamitir bhavet.*

[60] For this interpretation, see below, vv. 39cd-40ab, §§. 2.6.2 f.

[61] KSS 31, 39 cd *dhruvaṃ tu mādrikaṃ pātaḥ rāga-mārga-prayojakaḥ*. A collation with Ms. M, yields the following reconstruction: *dhruvas̱ tu māṯrikaẖ pātaḥ rāga-mārga-prayojakaḥ*. For a discussion of this problematic verse, see below, §§ 2.6.2 f.

[62] Cf. KSS 31, 40ab *kalā yās trividhā proktā tāsāṃ pāto dhruvaḥ smṛtaḥ*.

[63] See Datt. 114cd, below, nn. 359 and 526. Vemabhūpāla, author of the Saṅgītacintāmaṇi, reports that according to Dattila there are seven kinds of gestures and that time measurement should be done

(3) The NŚ and Datt. never prescribe where, when and how *dhruva* (snaps) are employed in relation with the other gestures.[64]

(4) *Dhruva* is described for the first time in medieval times by Abhinavagupta and Śārṅgadeva, *viz.* as a snap with the thumb and middle finger (see further § 4.6).

(5) There is no mention of **dhruvādi*, a (hypothetical) combination of beats beginning with *dhruva*. The NŚ acknowledges three combinations, each one of them beginning with one of the three beats unmistakably recognised by the NŚ (see below, § 2.3.1). If the text had recognised *dhruva* as a fourth beat, one could also expect a series beginning with that beat. The absence of the latter thus supports the thesis that *dhruva* was never recognised by the NŚ tradition as an authentic beat comparable to the other three.

In order to understand the discrepancy indicated here, one might assume that the word *dhruva* (v. 40ab) given immediately after the description of seven *tāla* gestures, was mistaken for another beat. The scribal 'corrections' that followed, naturally increased the number of audible beats from three to four (*caturvikalpa*, *caturvidha*), and inserted the word *dhruva* at strategic places in the text (cf. vv. 31cd).[65] Let us consider what the author might have meant before the alleged confusion and correction took place. After describing seven *tāla* gestures he obviously wished to underscore the concomitance of time-units and their beats, and thus states in v. 40ab that 'the *kalā* unit of time, which has been stated (above, in vv. 5-6; see § 2.6.2) to be of three kinds, is known to have a constant [or firm] beat (*dhruva pāta*).' The word *dhruva* in v. 40ab and some other places, only characterises the 'constant' nature of the three standard beats because their number, order and duration was usually fixed in a given *tāla* pattern. At times, Abhinavagupta seems to accept the word *dhruva* as referring to the fixed or constant relationship between time and action in the *tāla* patterns of the expanded states. More specifically, the fixed relationship observed to exist between individual beats (*aṅga*) and the entire pattern (*aṅgin*) they occur in.[66] A case in point is, for example, KSS 31, 195ab where so-called '*dhruva* beats' are allegedly prescribed in the opening part (*mukha* = *upohana*) of the short *āsārita* song.[67] What is stated there, in fact, is that the measurement of the opening parts (*i.e. mukha* & *pratimukha*) consists of two (different) *tāla* patterns, which are structured by steady beats only (*atha tatra mukhe tālau dhruvapātair eva niyamitau*

---

with them (quoted in Lath 1978, 23 *tanmate tu kalā sapta, tābhis tālamitir bhavet*). At the end of the section describing the cheironomy in the five basic *tāla* measures, Kanninātha raises the issue why Śārṅgadeva did not mention the application of *dhruva*, and that on that account its mention in the list of topics seems meaningless. To avoid this contingency, Kallinātha explains that it is meaningful because it is applied in Dhruva mārga (Kalānidhi on SR 5, 37 *nanu caikakalādiṣu tālabhedeṣu śamyādipātatrayasyaiva yogo darśitaḥ | dhruvapātasya tu yogo na kvacid api darśitaḥ, atas taduddeśalakṣaṇe nirarthake syātām iti cet, na | tasya dhruvamārge prayojyatvena sārthakatvāt*). On Dhruva mārga see further, § 6.2.4 below.

[64] I refer to the general structures *viz.* the *yathākṣara*, *dvikala* and *catuṣkala* states of expansion where the gestures are applied in fixed patterns, but consistently without any mention of *dhruva* beats. Their alleged application in the *upohana* components is discussed below. See also Rowell 1992, 367, n. 31.

[65] See also GOS 28, 18-20, cited above n. 43, subnote 2.

[66] Cf. A.Bhā. IV, p. 177.8-10 *...dhruvatvāt sthairyeṇa yā kalā kriyā dhruvam ucyate | aṅginyavayavavibhāgenāvayavarūpam eva yad aṅgaṃ paramāṇuvad ityāśayena dhruvam ucyate | tad aṅgaṃ tāle yukte gītakādīni vyāptāni [...].*

[67] On the optional application of Dhruva beats or no beats at all in the *mukha-s*, see further Ramanathan 1999, 86.

mānam).[68] The popular interpretation according to which the *tāla* patterns are 'structured by *dhruva* beats' is untenable because the author has never described this kind of structuring. On the other hand, though, measures with a 'fixed' beat-pattern have been taught.[69] The parallelism between the *upohana-s* of the *āsārita-s* and *vardhamāna-s* further shows that the 'fixed' pattern of beats accompanying the *mukha* (of *āsārita*) meant here might have been the same as that of *viśālā* (in *vardhamāna*), namely *śāmyā-tāla-śāmyā-tāla-sannipāta* (cf. vv. 243-5). This line of argumentation thus suggests that *dhruva* might have originally been used as an adjective and that later tradition has mistaken it for a noun, namely as a beat of the same name, and finally incorporated it into the existing set of audible beats.

1.1.3 Phases of analysis

The *tāla* chapter of the NŚ may be analysed in at least three steps of increasing differentiation, of which I adopt the third.

[I] The simplest way is splitting the chapter into two parts: one introducing the tools or components, and the second describing the structures or compositions where these components were employed. The first part of the *tāla* chapter that comprises about sixty verses, introduces the five standard *tāla* measures and their variations or expansions. It constitutes the kernel of the *tāla* chapter where the basics of the rhythmic system are outlined, such as the basic unit of time, five standard measures, their rhythmic genera, their varieties, their accompanying beat structure. These measures and their variations (or expanded forms) are hardly applied independently, but only as primary or secondary limbs (*aṅga*) of numerous musical forms.[70] In the second part of the chapter the author discusses their various applications in ancient forms of music and dance such as the *āsāritā-s*, *vardhamāna-s*, *gītaka-s*, etc.

Table 2 First step of analysis

Part	Verses	Topic
Part I	Vv. 1-58	Components
Part II	Vv. 59-545ab	Compositions

[II] The second step of analysing the chapter is an elaboration of the first one. The entire chapter is split up into two parallel parts. Each part comprises an introductory section discussing the structural components (*aṅga*) and a final section describing the respective structures or compositions. In other words, the first part (of step I) now becomes a) the introductory section, and b) a section that deals with the *āsārita-s* and *vardhamāna-s*. The remaining part of the chapter also has a section a), which describes numerous components, and a section b), which applies these compositions to the seven *gītaka-s* and other compositions as well.

---

[68] Furthermore, the beats of the *pratimukha* component are said to be those which accompany the *caccatpuṭa* pattern (v. 194 b), whereas those of the *mukha* are not clearly indicated (cf. vv. 195cd-7).

[69] See further, Table 12 and section 4.4 below.

[70] I make a distinction between primary and secondary limbs. When any of the five standard measures or their expanded forms is employed directly as a limb, I qualify it as primary, and secondary when it is derived from the former, or forms parts of larger limbs such as, for example, *vastu*, *pāda*, *śākhā*, *pratiśākhā*, etc.

Table 3 Second step of analysis

Part	Verses	Topic
Part I	Vv. 1-267ab	
Section Ia	Vv. 1-58	components
Section Ib	Vv. 59-267ab	*āsārita* and *vardhamāna* compositions
Part II	Vv. 267cd-545ab	
Section IIa	Vv. 267cd-308ab	components
Section IIb	Vv. 308cd-545ab	*gītaka-s*, and other minor compositions

[III] In a the third step, the first part of the preceding method (see Table 3) is retained as it is, whereas the second part is split up into two other parts with various subdivisions as illustrated in the following table:

Table 4 Third step of analysis

Part	Verses	Topic
Part I	vv. 1-267ab	
Section Ia	vv. 1-58	components
Section Ib	vv. 59-267ab	*āsārita* and *vardhamāna* compositions
Part II	vv. 267cd-545ab	
Section IIa	vv. 267cd-286	Melodic components
Section IIb	v.v. 287-308ab	Structural components
Section IIc	vv. 308cd-406	Seven *gītaka* compositions
Part III	vv. 407-545ab	Miscellanea:
Section IIIa	vv. 407-14	The method of *ardhayoga* (halving)
Section IIIb	vv. 415-8);	Classification of *gītaka-s* on literary principles
Section IIIc	vv. 419-25ab	Minor compositions: *ṛg*, *gāthā* and *pāṇikā*
Section IIId	vv. 425cd-39ab	The *tāla* structure of *dhruvā* compositions
Section IIIe	vv. 439cd-76ab	The *catuṣpadā* compositions
Section IIIf	vv. 476cd-525ab	The *tāla* structure of *lāsya*
Section IIIg	vv. 425cd-30ab	Epilogue: Praise of *tāla*
Section IIIh	vv 530cd-44ab	Methods of rhythmic variation: *laya*, *yati* and *pāṇi*

After describing the *āsārita-s* and *vardhamāna-s* in Part I, the author turns to the *gītaka-s*, *i.e.* the second most important class of compositions prevalent in ancient Indian music. Notably, this same order of presentation was also followed in the performance during the preliminaries (*pūrvaraṅga*).

In Part II Bharata[71] proceeds in a similar way to that in Part I, because before presenting the seven *gītaka-s* one by one (vv. 308cd-406), he first introduces their constituent elements (*aṅga*) in two separate sections; first the melodic components (vv. 267cd-86) and then the structural components (vv. 287-308ab).

After a rather systematic treatment of the *āsārita-s*, *vardhamāna-s* and *gītaka-s*, which obviously constitute the main objective of the *tāla* chapter, the author now turns to a number of miscellaneous matters (Part III), such as special rhythmic techniques (a, & h), minor vocal compositions (d, e, & f), an epilogue (g) and another way of classifying the *gītaka-s* (b).

---

[71] I sometimes use the generic term Bharata to indicate the text, the actual author or authors of the text, and not particularly the legendary sage who is traditionally reckoned as the historical author of the NŚ. Against the background of the proverbial problems of composition and authorship of the text, it is not always possible to decide whether NŚ 31 and other parts of the text were written by one and the same person and in one or different periods. Due to stylistic variations, etc., modern scholars generally reject the idea of homogeneity and unitary authorship of the NŚ and consider the work to be of a compilatory nature. Cf. S. A. Srinivasan 1980, 1.

Note that the sections IIIa and IIIh deal with various techniques of dynamics or rhythmic variations so often referred to in the major compositions discussed by the NŚ. From a methodological point of view, the issues discussed in these two sections elevate the discussions from a structural to a more formal and dynamic level. Since these issues represent the heart of *tāla* performance, as we would interpret them from a modern perspective, their occurrence among miscellanea is highly conspicuous, especially that of *laya*, *yati* and *pāṇi* because they occur even after the concluding epilogue (IIIg). For a discussion of this problem, see ch. 9 where I leave room for treating at least section IIIh as a later interpolation.

Apart from the second and seventh sections, the remaining sections deal with various kinds of compositions which, in fact, fall outside the canonical repertoire of ancient art-music comprising the *āsārita-s*, *vardhamāna-s* and *gītaka-s*. Their inclusion in the *tāla* chapter thus underscores the idea that *tāla* also occupied a fundamental position in non-canonical genres. By treating all these heterogeneous genres in the *tāla* chapter, the author perhaps sought to present a systematic treatment of their *tāla* aspects in one place. At the end of the *tāla* chapter the author summarizes that, in fact, all vocal forms such as "the *ṛg*, *gāthā*, *pāṇikā, saptarūpa*, *prakīrṇaka* (miscellany), *catuṣpadā, vardhamāna*, [*dhruvā*, *lāsya*, etc.,] are manifested only with *tāla*." (vv. 528cd f.)

It should be noted that the middle sections dealing with *dhruvā*, *catuṣpadā* and *lāsya*, are very problematic. Since the text is highly corrupted and poorly preserved (largely by the KSS version alone), large portions remain impenetrable. Therefore their translation and reconstruction (to appear in another volume) remain tentative and certainly require further improvement when and if better Mss. turn up.

1.1.4 A synopsis of the *tāla* chapter

The following table presents the actual contents of the *tāla* chapter.

Table 5 Contents of NŚ 31.

Verses	Subject	Topics	Remarks
1-6	Kalā (variable unit of time)	Kalā (1-3) related to three Laya-s (4) and their respective Mārga-s (5-6)	Kalā is explained in terms of Laya (tempo), which is closely connected to Mārga-styles.
7-14ab	Time measures	Time measures defined (7ab); Caturaśra and Tryaśra - two basic types (7cd-8ab); Cañcatpuṭa and Cācapuṭa - their resp. mnemonics (8cd-9ab); their syllabic formation (10-12ab); Miśra, a third type (12cd); its formation and species (13-14ab)	*Tāla* measures and their types are characterised by the number, quality and order of syllabic instants.
14cd-19ab	Three standard beat patterns	Śamyādika, Tālādika and Sannipātādika have specific place of application	The opening beat determines the nature of the beat pattern.
19cd-24	Three variations on Tryaśra *tāla*	Ṣaṭpitāputraka, Sampakveṣṭaka and Udghaṭṭa; their syllabic structure and beat pattern	(The beat formation of Sampakveṣṭaka and Udghaṭṭa is problematic).
25-28ab	Three *tāla* grades	First (or Zero) grade, Second (or duple) grade, and 'Third' (or quadruple) grade. 3 Caturaśra and 6 Tryaśra variations.	Three grades thus yield 9 basic variations.
29cd-39ab	Two categories of	4 silent gestures and three audible beats (29cd-	Time-units were marked by a

Verses	Subject	Topics	Remarks
	tāla gestures	32ab); their description (32cd-39ab); Dhruva, a fourth beat (39cd-40ab)	complex system of gestures and beats. Dhruva seems to be of later origin
40cd-43	Three *tāla* grades (explained)	Yathākṣara, Dvikala and Catuṣkala	The interrelationship between these grades is that of duplication or quadruplication.
44-7	5 Miśra *tāla-s*	Consisting of resp. 5, 7, 9, 10 and 11 Kalā-s.	These hybrid variants have very specific applications.
48cd-57	Aṅguli-niyama	Application in Aṣṭakala Caturaśra (48cd-50), Ṣaṭkala Tryaśra (51-4ab), Dvādaśakala Tryaśra (54cd-7).	The silent gestures are additionally marked by 'movements' with the fingers.
58	Conclusion Section I	The fundamentals of the ancient *tāla* theory.	This theory generally applies to the Āsāritā-s, Vardhamāna-s, Gītaka-s, and other songs discussed in the NŚ
59-224	Āsārita-s	Kaniṣṭha-Āsārita (59-65ab); Madhyama-Āsārita (65cd-7ab); Layāntara-Āsārita (67cd-70); Madhyama-Āsārita (71-5); [*Displaced section* (76-169ab)] Madhyama-Āsārita (continued) (169cd-72); Jyeṣṭha-Āsārita (173-79ab); Fingering in Jyeṣṭha-Āsārita (179cd-89ab); some general rules pertaining to Āsārita-s in general (189cd-92); Aṅga-s (Mukha, Pratimukha, Deha and Saṃharaṇa (193-4); Syllabic formation of Mukha-s (195-8ab); the verbal formation in Brahmagīta-s (198cd-207); more Āsārita varieties: Yathākṣara, Dvisaṅkhyāta and Trisaṅkhyāta (208-10); their relationship with Varṇa, Mātrā, Akṣara, (Laya) and Mārga (211-24).	This new section deals with the application of *tāla* in various situations of drama. First in the compositions such as Āsārita-s. The text was organized by Gaṇa-s of 4 Mātrā-s
225-67ab	Vardhamāna	Origination myth (225-30); Four Kaṇḍikā-s: Viśālā, Saṅgatā, Sunandā and Sumukhī (231-4ab); Their Upohana-s (234cd-45); The arrangement of individual Kaṇḍikā-s (246-50); Their combined arrangements (251-67ab).	The element of dance is introduced only now.
267cd-82	The *melodic* components of the Gītaka-s.	Melodic components: Vivadha, Ekaka and Vṛtta (268); Their relation with Vidārī-s (269); Vidārī (270ab); Vastu (270cd); Etymology of Vidārī-s (271); The use of Vidārī-s in the Gītaka-s (272-3); Two types of Vṛtta: Pravṛtta and Avagāḍha (274); Two types of Āroha and Avaroha (275); The number of Vidārī-s in the Gītaka-s (276-8); Three types of Vivadha: Sāmudga, Ardhasāmudga and Vivṛtta (279-81); their relation with Vidārī, Nyāsa, Apanyāsa and Anta (282-6)	After introducing the *melodic* units (*aṅga*), viz. *ekaka*, *dvividha* and *vṛtta* (vv 267cd-69), the author describes the nature of their constituents in terms of melodic phrases (*vidārī*) (vv. 270-1). He then indicates which melodic unit is to be employed in which song (vv. (vv. 272-3), followed by elaborations on *vṛtta* (vv. 274-5), *vidārī-s* (vv. 276-8) and the *dvividha* type of *aṅga* (vv. 279-86).

Verses	Subject	Topics	Remarks
287-414	Seven Gītaka-s and their *structural* components (*aṅga*):	Madraka, Ullopyaka, Aparāntaka, Prakarī, Oveṇaka, Rovindaka and Uttara (287) and their structural components (*aṅga*): Two types of Madraka: one with 4 Vastu-s, and one with 3 Vastu-s + one Śīrṣaka (288); Aparāntaka has 5, 6 or 7 Śīrṣaka-s and Prakarī has 7 1/2 (289); Rovindaka consists of 8 to 16 limbs and a Śīrṣaka at the end (290-2);	Synopsis of the Gītaka-s in terms of their *structural* components (*aṅga*)
		Oveṇaka consists of 7 to 12 limbs: Pāda, Sandhi, Vajra, Māṣaghāta, Sampiṣṭaka, Śīrṣaka, Caturaśra, Upavartana, Upapāta, 2 Praveṇī-s and two-limbed Saṃharaṇa (293-7); Ullopyaka has 3 limbed: Sthita, Pravṛtta and Mahājanika (298-305) Uttara (306-8ab).	These limbs have not been explained properly.
		Madraka (308cd-31); Pādabhāga, Mātrā, Vastu (317) Aparāntaka (332-44ab); Ullopyaka (344cd-66ab); Prakarī (366cd-73); Oveṇaka (374-88ab); Rovindaka (388cd-99); Uttara (400-6);	Detailed treatment of the Gītaka-s in terms of their Vastu-formation.
407-44ab	Eight Miscellaneous topics	(1) The method of *ardhayoga* (407-14)	The technique of 'halving' (*i.e.* the opposite of 'expansion') correlated with the styles.
		(2) Classification of *gītaka-s* on literary principles (415-8) (3) Some minor compositions: Chandaka, Ṛg, Gāthā and Pāṇikā (419-25ab) (4) The *tāla* structure of Dhruvā compositions (425cd-39ab); (5) The Catuṣpāda composition and its three varieties: Sthitā, Pravṛttā and Sthita-pravṛttā (439cd-47); Types of Catuṣpāda: Bahvakṣarā, Vipulā (Pṛthulā), Māgadhī, Ardhamāgadhī, Samākṣarapadā, Viṣamākṣarā, Ādyāntāpaharaṇā, Ānīkinī, Avasānāpaharaṇā, Abhyantarāpaharaṇā, Ardhanatkuṭā, Miśrā, Śīrṣakā, Ekāvasānā, Niyatākṣarā and Ardhapravṛttā (448-76ab);	
476cd-525ab	*Tāla* related to dance and poetics	(6) The *tāla* structure of Lāsya and its 10 limbs (476cd-84): Geyapada (485-90), Sthitapāṭhya (491-94ab), Āsīna[pāṭhya] (494cd-500ab), Puṣpagaṇḍikā (500cd-2), Pracchedaka (503-8ab), Trimūḍhaka (508cd-12ab), Saindhavaka (512cd-6ab), Dvimūḍhaka (516cd-8ab), Uttamottamaka (518cd-20), and Uktapratyukta (521-3).	Vicitrapada and Bhāva [Bhāvita] are obvious interpolations.

Verses	Subject	Topics	Remarks
525cd	Conclusion	Formal conclusion of the section on the application of *tāla* in Gīta-s.	
526-30ab	Epilogue:	(7) Praise of *tāla*	
530cd-44	Three dynamic factors of *tāla*	(8) Other methods of rhythmic variation by means of Laya (531-535ab); Yati (535cd-7) and Pāṇi (538-44ab)	
544cd-45ab	End of NŚ 31 Colophon		

1.2 A text-critical analysis of NŚ 31

1.2.1 Introduction: textual problems

For studying the rhythmic system (*tāla*) from the ancient period, we have two sources at our disposal, *viz.* the thirty-first chapter of the Nāṭyaśāstra (NŚ 31) and the *tāla* section of the Dattilam (vv. 109cd-244). Before coming to grips with the study of *tāla*, we first need to address a number of text-critical issues, which, in fact, have a bearing on the entire text. First of all, the text editions of these works, in particular that of the NŚ, are far from satisfactory and their present unreliability renders them largely useless for scientific analysis.[72] Despite the long history of editing these two works, the results have so far been highly disappointing. The situation with the Nāṭyaśāstra is surprisingly bad since textual criticism of this work is marred by multiple obstructions, which appear to be almost insoluble. The text of the music section (chs. 28-33) and in particular that of the *tāla* chapter is still in a hopeless state despite sustained efforts to edit it for almost a century now. Consequently, also its translations, based on poor editions, must be characterised as tentative and not very reliable.[73]

If a substantial contribution is to be made towards solving some of the urgent problems in the area of NŚ textual criticism, efforts should be made in a different way. An undertaking of that nature would, in fact, require a renewed study of all the available Mss. and editions of the NŚ, consisting of a thorough examination of their style, diction, etc., on the one hand, and the number, heading and arrangement of chapters per Ms., number and order of verses, variant and corresponding readings, omissions, additions, contaminations, etc. per individual chapter, on the other.

The approach suggested here is not without implications for the further course of our study, for, before we can proceed in presenting a workable reconstruction of the text of Nāṭyaśāstra 31, along with a fresh translation and comments, it has become imperative to settle these issues at least temporarily and for the chapter selected for our study. Furthermore, as the chapter on *tāla* cannot be regarded as an independent work, it has to be studied in its proper setting, *i.e.* in relation with the other chapters of the music section (28-33), and these in relation with the rest of the work, in particular the chapters on dance (4) and preliminaries (5) of the play. This approach is expected to shed light on the specific roles or functions rhythm had in music and dance in ancient drama. Needless to say, it is not possible to carry out an extensive and extremely laborious research involving the entire text within the limits of the present study.[74] Therefore, some restrictions have to be imposed.

---

[72] So far scholars on Indian music have been putting up with any of the available editions of the NŚ, apparently on the principle that what is printed is right, each citing different editions, but most often the GOS, which, in fact, not only turns out to be the poorest achievement in this field, but also a highly eclectic reconstruction since it represents only the text of a hypothetical version following the Abhinavabhāratī, as against the authority of a mass of NŚ Mss. See further our review of the GOS edn., below.

[73] Translations of the *tāla* chapter can be found in the following (complete) translations of the Nāṭyaśāstra: (1) Manomohan Ghosh 1961. (2) A. Rangacharya 1996; (3) 'Board of Scholars' English Translation [n.d.] and (4) Bābū Lāla Śukla Śāstrī 1985.

First, we may limit ourselves to only those issues which seem to have a direct bearing on the *tāla* chapter. One specific issue that underlies a score of other problems is the assumption of different recensions in the NŚ textual tradition.[75] The deviating length and composition of the *tāla* chapter in the principal editions is apt to be explained as reflecting the presence of different recensions. The main criteria for differentiating the recensions have been (I) the different divisions of chapters; (II) the numerous cases of accretions and interpolations; (III) the application of different definition, style, metre and terminology; and (IV) the textual divergences such as omissions, variant readings, etc.

In an essay in preparation on the recension theory in the NŚ,[76] I examine these criteria and conclude that they do not apply, at least not to NŚ 31. This implies that the theory has virtually been refuted as untenable. Another conclusion is that most of the textual problems more or less evaporate when the so-called *recensions* are conceived as *versions*. These ambiguous notions play a crucial role in text-critical discussions on the NŚ; a brief clarification is therefore in order. The confusion on their specific meanings has led to considerable misunderstanding and misinterpretations of the problems concerned, as I demonstrate in the particular case of Kavi's recension theory. Although both terms generally indicate the received text which belongs to a certain line or tradition of textual transmission and has undergone various changes, it is wise to avoid using them as synonyms,[77] especially because they denote different processes of textual transmission. *Recension* is generally understood as referring to the received text, which has been established by critical revision, involving a reconstruction of the earliest form or forms of the text that can be inferred from the surviving evidence.[78] However, due to independent doctrinal developments in some sections of a large area of dissemination, varying recensions within a single textual tradition can emerge and exist side by side when the regional developments are adapted or absorbed during subsequent editorial activities.[79] *Version*, on the other hand, is understood as referring to the text, which has come down in a single line of textual transmission, showing minor divergences in its exemplars in different regions due to sustained bad transmission. Some of these differing exemplars, or versions as we may call them, are almost free from editorial interference of any significance, but replete with lacunae, displacements, dubious interpolations, scribal errors and (mis-)corrections, etc.

---

[74] It should be admitted that much of the available time for the present study has been consumed by studying the textual issues mentioned above.

[75] In modern times, speculations on this issue began in fact already with Wilhelm Heymann (1874, 87 ff.; see R. Rocher 1981, 110), and not with M. Ramakrishna Kavi (1926) as is generally assumed. See for example, K. M. Varma (1958, 120), and L. Bansat-Boudon (1992, 28). See below our summary of the debate on the recension theory.

[76] In this essay I touch upon most of the text-critical problems of the NŚ, such as, for example, the issues of authorship (unitary versus multiple), composition (homogeneity versus heterogeneity), displacements, additions, interpolations, etc. Most of these problems appear to be interrelated, and, in fact, caused as well as maintained by the idea of recensions.

[77] As suggested sometimes in relation to the NŚ by, *e.g.* Kavi (1934, ix) and De (1925, 3; 1927, 862).

[78] For proper definitions see for example "Textual Criticism" in *The New Encyclopaedia Britannica*, Vol. 18, Chicago 1984 (repr.), p. 190, and S. M. Katre's *Introduction to Indian Textual Criticism*, Poona ^{2}1954.

[79] As for example is the case with the Mahābhārata and Rāmāyaṇa.

This distinction needs to be emphasised because in the case of the NŚ, versions are unnecessarily conceived as recensions. The discrepancies in the entire text, or certain parts of it, sometimes appear so big that its versions are easily mistaken for recensions. Once the notion of recensions is abandoned and that of versions introduced instead, many of the textual problems of the NŚ can be approached more convincingly than has been possible so far. During the reconstruction of NŚ 31 it occurred that by collating two related versions, the lacunae in one version could convincingly be filled up by the readings of the other, and *vice versa*, whereas a third version usually corroborated the 'eclectic' reading. It is in this light that our present attempt to diffuse the 'recension theory' should be understood.

Another restriction that we have to impose on ourselves is that of materials; only a limited number of Mss. and editions have or could be used as discussed below.

1.2.2 Nāṭyaśāstra editions and manuscripts

Since the rediscovery of the NŚ in 1865 by the American Indologist Fitz-Edward Hall, several editions and translations of the NŚ have become available.[80] Many of the partial editions containing only a selected number of chapters[81] are not useful for the present study, as they do not include the thirty-first chapter. Other editions, which were planned to present the whole text in a number of volumes, have somehow been never completed,[82] or are still in progress.[83]

---

[80] For a good review of the earlier works on the NŚ see Ludo Rocher 1981. See also the latest updates in L. Bansat-Boudon 1992, 25 ff. and K. Vatsyayana 1996, 32 ff.

[81] Notable are, for example, Fitz-Edward Hall's edn. of Dhanañjaya's *Daśarūpam* (Calcutta 1865) to which chs 18-20 and 34 of the NŚ are appended (pp. 199-241); P. Regnaud's "Le dix-septième chapitre du Bhāratīya-Nāṭya-Śāstra intitulé Vāg-Abhinaya", in *Annales du Musée Guimet*, I, Paris 1880; "La Metrique de Bharata [...]", in *Annales du Musée Guimet*, II, Paris 1880, edn. and transl. of chs 15 and 16; *La Rhétorique Sanskrite*, Paris 1884, includes the unedited text of Chs 6 and 7; S. C. Mukerjee, *The Nāṭyaśāstra of Bharata: Chapter Six* [...], [Paris s.n.] 1926; Ācārya Viśveśvara's *Hindī Abhinavabhāratī*. Delhi 1960 (^{2}1973). Sanskrit editions plus Hindī translations and commentaries of Nāṭyaśāstra and Abhinavabhāratī chapters 1, 2 and 6; R. P. Kaṅgale's *Rasa-Bhāva-Vicāra*. Bombay 1973. Bhāṣāntaramālā No. 22. This work contains Sanskrit editions plus Marathi translations and commentaries of Nāṭyaśāstra/Abhinavabhāratī chapters 6 and 7; Ācārya Bṛhaspati's *Nāṭyaśāstra 28vā̃ Adhyāya*. New Delhi 1986, contains Sanskrit and Hindī comments on Nāṭyaśāstra 28.

[82] Due to various problems with the text, J. Grosset, for example, abandoned the idea of publishing the text in three volumes (p. xxv), but edited only the first 14 chapters. See his *Bhāratīya-nāṭya-çāstram*. Paris 1898. See also Madhusudan Shastri, *Nāṭyaśāstra*. Varanasi 1971, part I (chapters 1-7); 1975, part II (chapters 8-18); part III, (chapters 19-28). Due to his early demise, part IV, the final volume never appeared. It should be cautioned that the text of the Abhinavabhāratī, which he gives along with that of the Nāṭyaśāstra, is not so reliable as it is replete with conjectural emendations which have not been justified or reported altogether.

[83] For example, Pārasanātha Dvivedī, *Nāṭyaśāstra of Bharata Muni*. Varanasi 1992, Part I, editions plus Hindī translations and commentaries of *Nāṭyaśāstra* and *Abhinavabhāratī* (chapters 1-5); Sudha Rastogi, *Nāṭyaśāstra of Bharata Muni*. Varanasi 1989, Part I (chapters 1-10).

The Oriental Institute in Baroda, which had published the GOS eds. of the NŚ in four volumes along with the Abhinavabhāratī commentary in 1926 and subsequent years, is again revising and publishing both texts. The fourth revised edn. of vol. I (chapters 1-7) by K. Krishnamoorthy appeared under the title *Nāṭyaśāstra of Bharata Muni*. GOS no. 36, Vadodara 1992.

Presently, the Kalidas Academy (Ujjain) has also undertaken a project to edit the NŚ under the editorship of K. D. Tripathi (Banares Hindu University, Varanasi).

Chapter 31 of the NŚ is therefore found only in the complete editions; six such editions were at our disposal at the time of writing these lines, as well as copies of eleven manuscripts, three of which are palm-leaf Mss.

Table 6 NŚ Editions.

Abbreviations	Series, Editor(s), etc.
KM	Kāvyamālā 42, edited by Pt. Śivadatta and K.P. Parab, Bombay 1894.
KM$_2$	Kāvyamālā 42, 2nd and revised edn. of KM [=KM$_1$] by Kedāranātha, Bombay 1943.
KSS	Kashi Sanskrit Series 60, edited by B.N. Sharmā & B. Upādhyāya, Varanasi 1929.
GOS	Gaekwad's Oriental Series 145, Vol. IV. Includes the Abhinavabhāratī, edited by R. Kavi and J.S. Pade, Baroda 1964.
PSS	Parimal Sanskrit Series 4, Vol. IV. Includes the Abhinavabhāratī, edited by K.L. Joshi, Delhi 1984/^{2}1989.
BI	Bibliotheca Indica 272A, Vol II, edited by M. Ghosh, Calcutta 1956.
KSS$_2$	Kashi Sanskrit Series 215, Vol. IV, edited and translated into Hindī by B.L. Śukla Śāstrī, Varanasi 1985.

Table 7 NŚ Manuscripts.

Abbreviations	Other details
P	Paper Ms. from Poona, Nāṭyaśāstra, No. 68 (of 1873-74), Serial No. 341 (see Descriptive Catalogue of Manuscripts in the Government Manuscripts Library, BORI, Vol. XII, Poona, 1936, pp. 442-4.). Age: Saṃvat 1930.
B	Paper Ms. from Baroda, Bharata Nāṭyaśāstra, Accession No. 11629, serial no. 150, Alphabetical List of Manuscripts in the Oriental Institute, Baroda 1950, pp. 1112-3.
B$_2$	Paper Ms. from Baroda, 'Nāṭyaśāstra with Comm. Abhinavabhāratī', [Alaṃkāra, Vedavivṛtti-2, No. 33]. Accession No. 26472; Oriental Institute of Baroda, Manuscript Library. A recent transcript of another transcript from Varanasi, reported to be copied from a Ms. from Kathmandu (Nepal). It is evidently a Devanāgarī transcript of Newari K$_3$. Contrary to what is claimed on the title page the ms. contains only the text of the NŚ.
K$_1$	Palm-leaf Ms. from Kathmandu, No. 323 vi 7, Real No. A 19/2, foll. No. 353, Newari 'fly-headed' script (*bhujiṃmola*), NGMPP, National Archives, Kathmandu, Nepal. Dated: 515 Nepal Saṃvat (ca. 1395 CE).[84]
K$_2$	Palm-leaf Ms. from Kathmandu, No. 316 vi 6, Real No. B 14/33, foll. No. 391, Newari script (*bhujiṃmola*), NGMPP, National Archives, Kathmandu, Nepal. Dated: 480 Nepal Saṃvat (ca. 1360 CE).
K$_3$	Palm-leaf Ms. from Kathmandu, No. Dvi 215, Real No. A 18/22, foll. No. 257, Newari script (*bhujiṃmola*), NGMPP, National Archives, Kathmandu, Nepal. Dated: 344 Nepal Saṃvat (ca. 1223 CE).[85]
K$_4$	Paper Ms. from Kathmandu, No. 5-996, Real No. A 353/25, foll. No. 183, Devanagari script, NGMPP, National Archives, Kathmandu, Nepal. (n.d.).
K$_5$	Paper Ms. from Kathmandu, No. 1-305, Real No. B 277/7, foll. No. 202, Devanagari script, NGMPP, National Archives, Kathmandu, Nepal. Dated: 767 Nepal Saṃvat (ca. 1647 CE).

---

[84] Cf. Luciano Petech, *Mediaeval History of Nepal*, Roma 1984, 143.

[85] See further Regmi 1966, 213.

Abbreviations	Other details
K$_6$	Paper Ms. from Kathmandu, No. 1-173, Real No. B 277/6, foll. No. 143, Devanagari script, NGMPP, National Archives, Kathmandu, Nepal. (n.d.).[86]
M	Paper Ms. from Madras, R. 2930 from the Government Oriental Manuscript Library (GOML). See Triennial Catalogue of Manuscripts, Vol. IV, Part 1, Skt. A, Madras 1928, pp. 4237-9.
N	Paper Ms. from Madras, R. 5271 from the GOML. See Triennial Catalogue of Manuscripts, Vol. VI, Part 1, Skt., Madras 1935, pp. 7267-9.

Despite the publications listed above, it is regretted that the tradition of editing the NŚ has not progressed much towards achieving its main objective, for "none of the existing editions meets the criteria of a scientific critical edition."[87] Moreover, of the six editions available to us, the two most recent ones (*i.e.* PSS and KSS$_2$) turned out to be redundant for the present study because they are nothing more than recasts of earlier editions, at least as far as the IVth Vol. is concerned.

The idea of selecting one of the editions on which to base the present investigation, had to be abandoned, because none of them can be singled out as decidedly better and more authoritative than the other. The differences between the principal editions (i.e., KM, KSS and GOS)[88] are not restricted to various degrees of variant readings, in that they also affect the number and order of the chapters and their verses. In fact, the problems of the Mss. appear to have been passed on almost unaltered to the editions. It is therefore not easy to determine, for example, what has been the exact number of verses in the archetype of the *tāla* chapter. The following table shows that all the important editions strongly deviate in this respect from one another:

Table 8 The length of the chapters in the music section of the NŚ indicated by the number of verses.

Ch.	28	29	30	31	32	33	34	
Subject	jāti	tata	vaṃśa	tāla	dhruvā	guṇa	puṣkara (p)	
KM$_2$	161	125	13	334	442	22 guṇa	259	puṣkara
GOS	141	119/147[1]	12	378	437	23 guṇadoṣa	304/246[1]	p/vādya
PSS	141	119/147[1]	12	378	437	23 guṇadoṣa	304/246[1]	p/vādya
KSS	141 ātodya	149	12	545	484	270 vādya		
BI	151 ātodya	156	13	502	525	301 puṣkara		
KSS$_2$	151 ātodya	156	13	502	525	301 puṣkara		
Grosset	161							

[1] The number after the slash mark refers to the number of verses in a related version.

---

[86] See further, Haraprasada Sastri, *A catalogue of palm-leaf & selected paper mss. belonging to the Durbar*, Baptist Mission Press 1905, xliii, GP no. 37.

[87] L. Rocher, *op. cit.*, p. 126.

[88] Because of their original nature, the first three editions will from here onwards be jointly referred to as 'principal editions'.

1.2.3 Description of the textual materials

The KM [or Bombay] edition (1894), the *editio princeps* of the NŚ, is based on two closely related manuscripts (*ka* and *kha*) which are not described by the editors. However, according to Kavi (editor of the GOS edn.) two copies in the manuscript library of BORI (Poona) served as the originals for the KM edn. Two other copies from Bikaner are said to fully agree with those from Poona. Kavi further conveys that *ca*, the manuscript he obtained from Ujjain, was the original source for the four above-mentioned copies. But he ranks them among the Mss. that represent the so-called shorter recension of the Nāṭyaśāstra, the one Abhinavagupta is alleged to have followed (Kavi ^{3}1926: 58, 1934: xxii).

Although nothing definite is known about manuscripts *ka* and *kha* they may safely be assumed to be identical with the Poona manuscripts.[89] Two of the five Mss. at our disposal (P and B) largely agree with manuscript *kha*.[90]

A second and revised edition (KM_2) appeared in1943 for which Paṇḍita Kedāranātha, the editor, had also used the GOS (vols. I & II) and KSS editions beside the original *ka* and *kha* Mss.[91] The fact that it consistently records the additional and variant readings of KSS (indicated with siglum *kā*), renders this work of some practical use for comparing or collating the so-called shorter and longer recensions, represented by KM and KSS respectively.[92] Unfortunately, it sometimes adopts the KSS readings and relegates those of its own Mss. to the footnotes.

It should be noted that while the original edition (*i.e.* KM_1) counts 339 stanzas in its *tāla* chapter, the revised edn. counts only 334. Since no material has been omitted from the former, the misleading decrease in the number of stanzas has caused unnecessary disparity in the numbering system of both editions.[93] Nonetheless, I have referred to the numbering system of the revised edn. because of its wider availability and practical utility (e.g., for comparing with KSS).[94]

Whenever we use the abbreviation 'KM' only without any subscript specification, it should be taken as referring to KM_2, the revised ed., but in general discussions, to any of the two editions, or both.

The KSS [or Benares] edition is said to represent the so-called longer recension of the Nāṭyaśāstra, and its *tāla* chapter accordingly contains the highest number of stanzas compared to those in other editions (see above, table no. 8). This disparity, however, turns out to be misleading as follows from our analysis of its content (see § 1.2.4, below). It moreover claims to be a 'critical comparison of two recensions' (p. v), but there is no evidence to substantiate this claim for at least the latter half of the work. Whether the word 'recension' there denotes the same as in modern textual criticism is not clear. All that M. R. Kavi had to say about the

---

[89] See also Grosset (1898, ix f., xiv).

[90] On *kha*, which possibly represents the Amreli exemplar of manuscripts, see H. H. Dhruva (1896, 351), Grosset (1898, ix f.) and Rocher (1988, 115).

[91] See KM_2 p. i; L. Rocher, p. 117.

[92] On the other hand, it's indeed true that the new version of the KM edn., revised with the help of the GOS and KSS edns., "can hardly be regarded as an original contribution to the reconstruction of the NŚ text." (L. Rocher, p. 117).

[93] A comparison of both editions along with the Poona and Baroda Mss. shows that this disparity can be attributed to the carelessness of its editor, who, for unknown reasons, added an extra line to a number of verses (i.e., 46-7, 49, 55, 57, 64-5 and 71), and on one occasion failed to number a verse (i.e., v. 49).

[94] For the numbering system of KM_1 one can see the original edition, or Ghosh's edition where the corresponding verse numbers are indicated in the footnotes.

Benares edition is that it "is based upon the imperfect copy (*sic*) of the shorter version of the older recension." (1934: xxii)

Like in KM, here too the Mss. (*i.e.* '*ka*', '*kha*' and '*ga*') are not described, but it seems to be clear that different Mss. were used for both editions.[95] It appears that Ms. '*ga*' was incomplete, as its variants are recorded only up to the first six chapters,[96] whereas '*ka*' and '*kha*' must have been fairly complete because their variants are recorded throughout the work. Significantly, variants are recorded less frequently in the latter half of the work and in particular in the music section.[97] In ch. 31, for example, which counts 545 verses, only ten variant readings are recorded and hardly any in succeeding chapters. This is in stark contrast to numerous notes in the first quarter of the work where each and every detail is recorded. As it seems quite unlikely that Mss. '*ka*' and '*kha*' would suddenly show greater agreement with each other towards the end of the work, I am inclined to suspect the editors' waning interest in the themes in the final section of the work, to account for the less careful treatment.[98]

For verifying the doubtful readings of the printed text, we avail ourselves of copies of two other Mss. (*i.e.* M & N) representing the longer version. Besides, it is also possible to do so indirectly by studying the critical apparatus from the following editions: (1) the KSS itself has recorded some variants (see our remarks above, on Mss. '*ka*' and '*kha*'); (2) the BI edn., for which three Mss. of this type have been used,[99] proves to be very useful in this regard as it records numerous variants under *sigla* 'M', 'N' and 'R'; and (3) the variant readings of Ms. '*ḍa*', as recorded in the footnotes of the GOS edn. (see below), closely resemble the KSS readings.

As already mentioned above, the variant and additional readings of this edition are indicated in the revised KM edn. in footnotes (with siglum *kā*), where they occasionally occur with new typographical errors or with corrections. The KSS further appears to have been followed in broad lines by the editors of the BI and KSS₂ editions (see below).

The GOS [or Baroda] edition, published along with the Abhinavabhāratī, Abhinavagupta's commentary on the NŚ,[100] is perhaps the most disappointing edition of the NŚ. Ramakrishna Kavi, the editor, "could not manage to make up something better and more critical out of the enormous material he claims to have collected."[101] He did not describe these Mss. further, except for what we know from what he said about them in the light of their provenance and recension affiliations.[102]

---

[95] Cf. K. S. Ramaswami ²1956, i and L. Rocher 1981, 117.

[96] Initially, it was suspected that *ga* represents the readings of either GOS, Grosset, or perhaps the Grantha Ms. used by Grosset, but a comparison of variants could not confirm this, which makes us conclude that it must have been a separate Ms.

[97] Cf. Rocher, ibid.

[98] It appears that the themes of the music section could not capture the interest of the editors, unlike the main themes of the NŚ, such as drama, poetics, etc.

[99] I.e., his Mss. 'M', 'N' and 'R'. See Ghosh 1956, xi. The first two of these mss. have been utilized by us, and also referred to as 'M' and 'N'.

[100] The textual problems of the Abhinavabhāratī are of a very different category. The printed text, which was based on two fragmentary Mss., is so corrupt that at some places it is impenetrable and unintelligible (Cf. Kavi ³1926, 61 and Pade 1964, viii). Moreover, its value as a commentary on the NŚ is far less than that of an independent work from the tenth century, and will for that reason play no significant role in understanding the text. In the course of our comments, we have nevertheless tried to summarize its main ideas on *tāla*, whenever possible, along with those of other contemporary sources.

[101] S. K. De 1927, 861. See also Rocher 1988, 19 ff. Kavi was severely criticized by S. K. De for several reasons, inter alia, for his uncorroborated theory of two recensions. The debate that ensued from this criticism is of some interest for our examination of the theory, to which we shall return when dealing with that matter later on.

Kavi, moreover, failed to distinguish between an edition of the NŚ as such, and an edition of the commentary (Abhinavabhāratī) - including the NŚ as interpreted by Abhinavagupta:[103] he reconstructed the text primarily according to the Mss. which follow the commentary.[104] His insistence on focusing on the latter confounded him with serious editorial problems, such as, for example, determining the Mss. which follow the commentary, and the recension to which they belong (cf. 1929: 566 f.). Although Kavi formally maintains that Abhinavagupta followed the so-called shorter recension (represented by Ms. *ca*),[105] at the same time he concedes that he felt great difficulty in fixing the recension used by the commentator. The problem was that none of the Mss. follow the commentary throughout. We may therefore infer that the commentator either followed a 'unique' exemplar, which is lost now, or a number of differing Mss. in turns, and possibly even of differing recensions.[106] The last stated option appears to have been the case since Kavi distinguished four Mss. (*i.e. ca, da, ma* and *na*), which in his opinion stand 'mid-way between the two recensions', *i.e.* represent a 'reconciliation class'.[107] From this class he finally accepted Ms. *ca* as representing the commentator's recension (see Kavi 1934: ix, xxii). However, a notable inconsistency in Kavi's statements is that, on the one hand, he relates Abhinavagupta and Ms. *ca* with the shorter recension, and on the other, also with the recension of the 'reconciliation class'.

The main objection against Kavi's 'critical' edition is that the constitution of the text has been disconnected from the existing Mss., and joined with the 'copies' Abhinavagupta may have had in front of him while writing his commentary on the NŚ. This means that the problems Kavi encountered in fixing the recension used by the commentator are in fact reconciled and reflected in the GOS edn. of the NŚ. Although Kavi never mentioned in explicit terms to which recension his edition belongs, it seems to be clear that he must have reckoned it to be part of the 'reconciliation class' as follows from its analogous treatment with that of the commentary. In an attempt to accommodate this version to the recension theory, Kavi expanded the theory later on by dividing each of the earlier recensions again into shorter and longer versions: "Our *ḍa* represents the longest of the older recension, while *ṭa* and *ḍha* represent the shortest. *Ca* represents Abhinavagupta's recension. While *ma* is the longest and *bha* represents (sic) the shortest of the later version wherein the whole work extends over only 32 Chapters" (Kavi 1934: ix). From what is stated here it is not so clear whether Ms. *ca* stands between the two main recensions, or between the subdivisions of the shortest recension.

Summarizing our review of the GOS edn., we may conclude that it represents a hypothetical and 'unique' exemplar of the NŚ which Abhinavagupta may have had at his disposal, but of which no (extant) copies are available anymore.[108] And speaking with Kavi's terminology, it could be said to represent the 'shorter' recension since the Mss. constituting the edition follow the 'shorter' recension more frequently than the 'longer'. Moreover, the poor readings of the testimonies in the NŚ commentary testify to the fact that the text had already become corrupt and unreliable as early as the 11th century, that is during the time the former was composed. Whatever the case, Kavi's method has resulted in an eclectic edition, which is hardly supported by any manuscript authority.

---

[102] For short descriptions of his 40 Mss., see Kavi 31926, 58; 1929, 562-4 and 1934, xxii f.

[103] Rocher, p. 122.

[104] See Kavi ^{3}1926, 58 and Ramaswami ^{2}1956, 10 f.

[105] See Kavi ^{3}1926, 57 and 1934, ix, xxii; cf. 1929, 566.

[106] According to Kavi (ibid., p. 59), Abhinavagupta seems to have alternately followed the shorter recension (chs. 1-13, 33-7), the longer (20-1, 28-30), and a combination of both (chs. 14-20, 24-7, 31-32), that is in the ratio of 18, 6, and 13 chapters.

Regarding the chapters on music Kavi further observes that 5 southern Mss., indicated by siglum *ja* (in his editions), follow chapters 28, 29 and 30, Mss. *bha* (?) and *ma* (from Malabar) follow chapters 31 and 32, and the Ujjain Mss., indicated by siglum *ca*, from 33 to 37.

[107] *Ca* is Kavi's copy from Ujjain, *da* from Almorah, and *ma* and *na* are from Malabar. See Kavi ^{3}1926, 58 f.

[108] I will return to this issue later when examining the GOS text as representing an intermediate phase between the KSS and KM Mss.

The BI [or Calcutta] edition by Manomohan Ghosh is primarily based on the three editions described above, but from the 28th chapter onwards, only on the KM en KSS edns., because vol. IV of the GOS edn. had not yet appeared. Ghosh had further used four Mss. (*i.e.* 'C', 'M', 'N' and 'R'; 1956: xi), but apparently without attaching much value to their contributions and arrived at the rather surprising conclusion that "very little improvement can be expected from a collation of more MSS." (Ghosh 1967b: xxiv).[109] Despite warnings that the available or new Mss. seldom help in solving the textual difficulties, one may prefer to consult as many Mss. as possible because, especially in the case of the NŚ, a collation with the existing editions may be the only resource to check and improve the printed readings, the order of verses, etc., although their value should indeed not be overestimated.

Since Ghosh does not always record the variants of his Mss., the copies of Mss. 'M' and 'N' at our disposal have proved to be of great value in improving the BI as well as the KSS editions. Ghosh describes ms. 'R' as a palm-leaf manuscript written in Grantha characters.[110] Unfortunately, he does not record much of its variants, obviously because it has 'substantial agreement with N' and is 'more corrupt' (1956: xi).

By its very nature the BI edn. may be properly qualified as an eclectic reconstruction. In this respect, Ghosh followed principles which were basically adopted from Grosset.[111] No particular Ms. received a 'preferential treatment', so the choice of readings sometimes obeyed the law of majority (of Mss.), and sometimes it was guided by the reason of logic, meaning and relevancy. Unlike Grosset and Kavi, Ghosh "never avoided suggesting emendations when even the readings presented by Mss. could not be considered satisfactory."[112]

Ghosh accepted Kavi's ideas of two recensions, and even tried to adduce an additional reason to support the 'relative authenticity' of the 'longer recension' (1967a, xxix f.). Although Ghosh claimed that his edition represents the so-called 'longer' recension (1956, xi), his eclectic treatment led him to combine the variant readings of the two alleged recensions into a single text,[113] which in fact can more fittingly be characterised as a conflated edition. There is undoubtedly reason for concern about the way in which the text has been established,[114] but on the other hand, it should be realised that it has perhaps been the best achievement so far in the long history of trial and error in editing the NŚ in its entirety.[115]

---

[109] A similar sense of frustration may be noticed in the attempts of earlier editors who also found little help from new material. Cf. Ramaswami ^{3}1926, 8 and Kavi *ibid.*, 59 f. and M. Ghosh 1967b, xxiv.

[110] This is perhaps ms. G in Grosset's edition.

[111] See Ghosh (1967b, xxxii ff.), who quotes Grosset (1898, xxv f.) to show his agreement and disagreement with the latter.

[112] Ghosh 1967b, xxxii ff. He justifies that "the emendations were suggested only after a great deal of deliberations."

[113] "After the most careful consideration", he considered it prudent "to adopt readings from both recensions, whenever such was felt necessary from the context or for the sake of coherence" (Ghosh 1967a, xxiii f.).

[114] See Rocher, p. 124 f.

[115] Here one should keep in mind Regnaud's principle of having "rather a poor edition of the NŚ than no edition at all." Quoted by Rocher (1988, 118, 127).

Although Ghosh's arrangement of verses and understanding of isolated topics are not always convincing, the reconstruction initiated by him is most welcome. However, some parts of it and certainly the *tāla* chapter need further improvement.[116]

A closer examination reveals how Ghosh established the text of his edition: he adopted the KSS as the basis and added all verses from the KM (and GOS up to Ch 27) to it, which are missing in the former. Thus the principal editions were integrated in such a way that hardly any material is omitted.[117]

Ghosh often had to abandon the verse order of the KSS so as to obtain a more logical or coherent linking up of verses and topics and then followed the KM edn. as well as his own judgment. In this respect Ghosh has successfully restored a number of breaks in the text, but there are still many passages which need to be re-arranged, transferred or ejected. Some repetitions within the texts, for example, have escaped the attention of the editor and are retained in his edition.

The PSS edition claims to be prepared 'in consultation with' the existing editions,[118] but in fact represents nothing more than a recast, or a poor reproduction of the GOS edition, including its numerous mistakes. As far as the chapters relevant to our study are concerned, it contributes nothing beyond the GOS edn. It does even not reproduce the variant readings recorded in the latter, but records only deviations from the KM and KSS, and - obviously with the help of the revised KM edn. - indicates some of the large additions and omissions in the texts by placing them between square brackets.

The KSS$_2$ edition claims to follow the longer recension as represented by KSS (B. S. Śāstrī 1985: lxxv), but in fact simply follows the BI edn. (at least in Vol. IV). Like in PSS, here too no manuscript material is used beside the earlier four editions (*i.e.* KM, KSS, GOS and BI). Essentially this edition is nothing more than a copy of the BI edn. with some very minor deviations; it also includes a Hindi translation, which seems to be a rendition of Ghosh's English translation.

KSS$_2$ should, moreover, not be mistaken for a revised edition of KSS, because, although both editions were published in the Kashi Sanskrit Series, there is no direct relationship between them. The indirect link is via the BI edn., which is indeed more closely linked to KSS (see above).

Mss. P and B are related to the KM edn., and more precisely '*kha*', one of the two Mss. on which KM is based. In terms of the recension theory, they may be grouped among Mss. belonging to the so-called shorter recension (read: version),[119] and may even perhaps be related to Ms. '*ca*' used in the GOS edn.[120]

---

[116] For example, throughout the second volume of his edition, he fails to indicate those passages or layers in the text which are spurious, later or contaminations, unlike the first volume of his edition where he uses special marks in the text to indicate them (see Ghosh 1967b, xxxiii). He seems to follow a similar procedure in his translation.

[117] From the *tāla* chapter of the KSS edn. he omitted vv. 11ab, 71 and 169cd, and from KM only v. 150ab. As for the passage of 'alien' verses in KSS (vv. 76-169ab), which he appropriately omitted, see further, discussion below.

[118] See K.L. Joshi, ^{2}1988, xxiii f.

[119] This class of Mss., consisting of 37 chapters, designates the work in their final colophon as the *Nandibharatasaṅgītapustakam*.

[120] According to Kavi (GOS Vol. I, ^{3}1926, 58), it is the Ujjain manuscript - the source of the Bikaner and Poona manuscripts -, which is an attempt at "reconciliation of the two recensions." Cf. Rocher 1988, 121.

Ms. B$_2$ belongs to a separate class of Mss. from Nepal (see below, K Mss.), as it seems from the colophon on fol. 315 that mentions Saṃvat 344 (*i.e.* ca. 1223 CE) as the date of the copy. This means that B$_2$ is certainly a copy of K$_3$, because only the latter is known to date officially from Nepali Saṃvat 344.[121] B$_2$ is visibly a very recent transcript of a badly mutilated Ms. as indicates the modern handwriting and multiple deviations in many respects from the rest of the material examined above. Although it contains the music chapters, it is not a complete Ms. of the NŚ as it drops a number of chapters (and ends with chapter 33), and shows anomalies in the numbering of the chapters (at least of the music section), as well as in the number of verses per chapter: ch. 27 is on *jāti/ātodya* (41 vv.), ch. 28 on *tata* (88 vv.), ch. 29 on *suṣira* (13 vv.), ch. 30 on *tāla* (299 vv.), ch. 31 on *dhruvā* (336 vv.), and ch. 32 on *avanaddha* (249 vv.).

B$_2$ does not consistently agree with any of the existing editions, but certainly belongs to the same version as the K Mss. In that respect it shows certain similarities with KSS and GOS. I have not been able to identify it with any of the Mss. used in other editions, but from its closer affinity with the KSS readings and, speaking in terms of Kavi's elaboration of the recension theory, it may well represent a 'shorter version' of the longer recension (cf. Kavi 1934: ix).[122] Because of the corrupt nature of B$_2$, its variants seldom contribute to the reconstruction of an exemplar; nonetheless, we reproduce them for the sake of comparison

Mss. K$_{1\text{-}6}$ constitute a separate class of Mss. from Nepal, to which also Ms. B$_2$ belongs. K$_3$ is our oldest extant manuscript of the NŚ (344 Nepal Saṃvat, *i.e.* ca. 1223 CE) and most probably the source of all younger Nepalese Mss., because they usually share its lacunae and other irregularities. Ms. B$_2$ therefore agrees fairly well with the Kathmandu Mss, and appears to be a bad copy of K$_3$. The three relatively old palm-leaf Mss. (K$_{1\text{-}3}$) were expected to be decisive in restoring the lacunae and problematic passages of the NŚ, but unfortunately, at least for the *tāla* chapter, this proved to idle because their condition is also in a deplorable state comparable to that of Ms. B$_2$. So, what has been said above with respect to the latter, applies *mutatis mutandis* to the former. In other words, they represent a middle or intermediate version: sometimes agreeing with the long version (*i.e.* KSS) and sometimes with the short (*i.e.* KM). In comparison with K$_{1\text{-}3}$, the three paper Mss (*i.e.* K$_{4\text{-}6}$) are of relatively little value,[123] except for restoring lacunal and deteriorated passages.

Mss. M and N belong to the longer version of the NŚ and thus agree in main lines with the KSS version. These copies in Devanagari script have been obtained from the Government Oriental Manuscript Library, Madras.[124] For further descriptions one should see the Triennial Catalogue of Manuscripts, GOML, Madras (for references see above). These Mss. not only show interesting divergences from KSS, but also from one another. They are therefore very useful for verifying the defective text of the KSS edn. These Mss. have been used in the BI edn., and for the sake of convenience we have adopted the same *sigla*. Although these Mss. are complete, our copies contain only the *tāla* chapter. M has the entire chapter, but N unfortunately only the final section of the chapter (comprising 9 folios of alternate pages from the end).

---

[121] See above, Table 7, s.v. K$_3$.

[122] From its odd numbering of chapters (*i.e.*, 30 instead of 31 for the *tāla* chapter) it could follow that this belongs to the same group of Mss. as those from Bikaner (P) as indicated in the comparative table of chapter headings by S. Lévi (1890, xiv) and J. Huizinga (1897, 4 f.). But in J. Grosset's improved table (1898, xxii f.) the *tāla* chapter in P is obviously 'restored' to no. 31.

[123] Ms K$_6$, for example, is often lacunal and usually omits peripheral markings such as vocal subscripts, superscripts, nasalization, etc.

[124] I am indebted to N. Ramanathan for acquiring the copies for me.

The review above shows that the older editions (KM, KSS, GOS and BI) each have their specific utility for reconstructing the text of the *tāla* chapter, and in particular for examining the recension theory. Yet, not all the materials I utilized are of equal value for my study; some are of great value, while others are almost redundant. In this way the less original editions (*i.e.* PSS and KSS_2), which are recasts of the GOS and BI edns. respectively, do not contribute to the constitution of the *tāla* chapter. They are therefore not taken into account in the rest of our investigation, except for statistical purposes, or when they occasionally disagree with the other editions. (*e.g.* KSS_2 with the BI edn.).

1.2.4 Textual divergences

In this section we shall examine the problem of textual divergences in NŚ 31[125] to show that the various textual traditions are nothing more than versions which have lost most of their original form due to bad transmission and preservation under adverse conditions. We shall further outline the principles upon which the *tāla* chapter may be reconstructed.

A perusal of the quantity of verses in the *tāla* chapters of our sources (see above, Table 8) shows that not all of them have the same number of verses and that one may distinguish shorter or longer versions of the chapter as represented by the archetypes KM and KSS respectively. The difference in quantity between the *tāla* chapters of these two principal editions is about 211 stanzas [*i.e.* 545 - 334]. However, the great difference in length between these sources is misleading, and in fact could be nullified almost completely, as will be shown below.

In order to sort out the chaos of variant readings, omissions, additions etc., we have prepared a table that displays the relative divergences between the sources.[126] The table records parallel verses or passages, which comprise common or corresponding readings (c.r.) alternated by variants readings (v.r.) The variants may comprise whole lines, stanzas or an entire group of stanzas. Notable are the numerous omissions (om.), which range from a single line or more lines to larger chunks of texts varying from three to about ten stanzas, and in one case even reaching up to about a hundred stanzas. Since omissions and additions are relative terms and each of them can be expressed in terms of the other, we have decided to mark only the so-called omissions (-). Because of certain advantages of the text of KSS above that of other versions, it has tentatively been accepted as our basic source that will be sought to be improved (or reconstructed) by means of related Mss. of the same version. Thus additional readings which do not occur in KSS, have been indicated by the original verse numbers in their respective columns, but in the KSS column they are marked by an omission mark (-). Since the distinction between corresponding and variant readings is not so clear in many cases, the identification of certain passages as such has often been difficult. Similarly a number of 'additional' readings from one edition may sometimes turn out, after careful examination, to be variants from the other. By identifying these hidden variants the high number of 'omissions' and 'additional' readings can be brought down to a minimum and acceptable level. These as well as other flaws can be corrected by a painstaking analysis of the doubtful omissions and variant readings.

---

[125] This constitutes the fourth and final category of text-critical problems advanced by Kavi to differentiate his recensions. In the present study we confine ourselves to this category only.

[126] In addition, this table may serve as a concordance or index of the sources I utilized.

A number of additional readings from B_2, our most defective Ms., has for practical reasons been left unmarked. Since this Ms. deviates too strongly from the rest of the material, a minute recording of these readings would distort and disturb the clarity of the interrelationship between the principal editions in the first three columns of Table 9. Nonetheless, I have recorded parallels (see final column) to illustrate the unpredictable nature of certain Mss.

It is further regretted that the K Mss. could not be utilized in preparing this table, because the microfilms obtained from the National archives, Kathmandu, reached me only when this work had already been completed. I have, nevertheless, placed their collective *siglum* (K_{all}) next to B_2 only to indicate their relative closeness. Moreover, the pressure of time prevented me from taking up the laborious task of numbering the verses and collating them with the other materials.

Table 9 A Concordance of the verses of NŚ 31. Variant readings (v.r.), common or corresponding readings (c.r.) and omissions (om.) in the available editions and Mss. on NŚ 31.

	KSS	KM/P/B	GOS/PSS	BI/KSS$_2$	B_2 [~K_{all}]
c.r.	1-2	1-2	1-2	1-2	1-2
om.	3ab	-	-	3ab	3ab
c.r	3cd-5ab	3-4	4cd-6ab	3cd-4	5-6
c.r.	5cd-6	5-6ab	3-4ab	4-6ab	3cd-4
c.r.	7-9ab	6cd-8	6cd-8ab	6ab-8	7-10ab
om.	9cd	-	-	9ab	-
c.r.	10ab	9ab	8cd	9cd	10cd
om	-	9cd	9ab	10ab	10ef
v.r.	10cd	10ab	10ab	10cd	10gh
om.	11ab	-	-	-	-
om.	-	10cd	-	11ab	11ab
v.r.	11cd-2ab	11	9cd-ef	11cd-2ab	11cd [om. 12ab]
om.	-	-	10cd	-	-
om.	-	-	11cd	- (cf. 26ab)	-
c.r.	12cd	17ab	16cd	12cd	12ab
om.	13-14ab	-	-	13-14ab	12cd-3
om.	-	12ab	11ab	14cd	-
v.r.	14cd-15	12-3ab	12-3ab	15-6ab	14 [om. 14cd]
om.	16ab	-	-	16cd	-
c.r.	16cd-18	13cd-15	13cd-5ab	17-9ab	-
om.	-	16ab	15cd	19cd	-
c.r.	19-21ab	17cd-19	17-9ab	20-2ab	-
om.	-	20ab	19cd	22cd	-
v.r.	21cd-3ab	20cd-2ab	20-1	23-4cd	16cd-7ab
om.	23cd	-	-	24ef	15ab
c.r.	24	22cd-3ab	22	25	-
om.	25ab	-	- (cf. 11cd)	26ab	15cd
c.r.	25cd-29ab	26cd-30ab	26-9	26cd-30ab	17cd-21ab
c.r.	29cd	16cd	16ab	30cd	21cd
om.	30ab	-	-	31ab	22ab
c.r.	30cd-32	30cd-32	30-2ab	31cd-33	22cd-4

	KSS	KM/P/B	GOS/PSS	BI/KSS$_2$	B$_2$ [~K$_{all}$]
om.	33ab	-	-	34ab	25ab
c.r.	33cd-35ab	33-4	32cd-4ab	34cd-6ab	25cd-7ab
om.	35cd-36ab	-	-	36cd-7ab	27cd-8ab
c.r.	36cd-7ab	35	34cd-5ab	37cd-8ab	28cd-9ab
om.	-	-	35cd	-	-
c.r.	37cd	36ab	36ab	38cd	29cd
om.	38ab	-	36cd	39ab	30ab
v.r.	38cd-9ab	36cd-7ab	37	39cd-ef	30cd-1ab
om.	39cd	-	-	40ab	-
c.r.	40-42ab	37cd-39	38-40ab	40cd-2	31cd-3
om.	42cd	-	-	43ab	34ab
?	43	-	53	43cd-4ab	34cd-5ab
c.r.	44-6	23cd-26ab	23-5	44cd-7ab	35cd-8ab
c.r.	47-50	40-43	40cd-4ab	47cd-51ab	-
v.r.	51-2ab	46cd-7ab	47-8ab	54-5ab	-
v.r.	52cd-4ab	44-5	44cd-6ab	51cd-3ab	-
om.	-	46ab	46cd	53cd	-
c.r.	54cd-57	47cd-49ef	48cd-51	55cd-8	-
om.	-	49gh-51ab	52-3	59-60	-
c.r.	58	51cd-52ab	54	61	38cd-9ab
om.	-	52cd	55ab	62ab	-
v.r.	59ab	53ab	55cd	62cd	39cd
c.r.	59cd-60	53cd-54	56-7ab	63-4ab	40-1ab
v.r.	61-2	55-6ab	57cd-9ab	64cd-6ab	41cd-3ab
c.r.	63-65ab	56cd-58ab	59cd-61	66cd-8	43cd [om. 63cd-5ab]
om.	-	58cd-60ab	62-3	69-60	-
c.r.	65cd	60cd	64ab	71ab	44ab
om.	-	61	64cd-ef	71cd-2ab	44cd-5ab
c.r.	66-67ab	62-63ab	65-6ab	72cd-3	45cd-6ab [om. 67ab]
om.	-	63cd	66cd	-	-
om.	-	-	-	-	46cd-51ab
om.	67cd-8	-	-	74	-
c.r.	69	88	96	75 [=104]	-
om.	70	76cd-7ab	84	91cd-2ab	-
om.	-	-	-	-	54cd-6
om.	71	-	-	-	57
v.r.	72	150cd-1ab	163	171	58
om.	73	-	-	172	-
v.r.	74-5	151cd-3ab	164-5	173-4	59-60
om.	76-169ab	-	-	-	-
om.	169cd	- [cf. 153cd]	-	-	-
c.r.	170-3ab	154-57ab	166-69ab	175-78ab	61-4ab
om.	173cd	-	169cd	178cd	64cd
v.r.	174	157cd-ef	170	179	65
om.	175	-	-	180	-
c.r.	176-9	158-61	171-4	181-4	66-9
v.r.	180-3	162-6ab	174-9ab	185-9ab	70-4ab
om.	-	166cd-7ab	179cd-80ab	189cd-90ab[-cd]	74cd-5ab
om.	184ab [=182bc]	-	182ab	191cd	cf. 72cd

	KSS	KM/P/B	GOS/PSS	BI/KSS$_2$	B$_2$ [~K$_{all}$]
v.r.	184cd-7ab	167cd-70ab	180cd, 183-5ab	191ef-4ab	75cd-9
om.	187cd	-	-	197ab	-
c.r.	188	173	188	197cd-98ab	-
om.	-	174	189	199cd-200ab	-
c.r.	189-91ab	170cd-2	185cd-7	194cd-6	80ab [om. 189cd] 82ab
om.	191cd-2ab	-	67	198cd-9ab	80cd-1ab
c.r..	192cd	146cd	159cd	167cd	-
c.r.	193-4	80cd-2	88-90ab	96-8ab	-
Cf.	263ab	83	90cd	98cd	-
om.	-	85cd-7	93-5	101-3	-
om.	-	89-91	97-100ab	105-7	-
c.r.	195-8	92-5	100cd-4ab	108-11	-
v.r.	199	prose [I]	104	prose [I]	-
om.	-	96-7ab	105	112-3ab	-
c.r.	200	97cd-8	106	113cd-4	-
v.r.	201	prose [II]	107	prose [II]	-
c.r.	202-3	99-100	108-9	115-6	-
v.r.	204	prose [III]	110	prose [III]	-
c.r.	205-6	101-2	111-2	117-8	-
c.r.	207	prose [IV]	113	prose [IV]	-
c.r.	208-24	103-19ab	114-31ab	119-35	-
om.	225ab	-	69ab	76ab	-
v.r.	225cd	63cd	69cd	76cd	-
c.r.	226-230	64-7	70-4	77-81	-
om.	-	68-73ab	75-80	82-8ab	-
c.r.	231	119cd-20ab	131cd-2ab	136	-
om.	232	-	-	137	-
c.r.	233-4ab	131-2ab	144-5ab	150-1ab	-
om.	234cd	-	-	138ab	-
c.r.	235-6ab	120cd-21	132cd-3	138cd-9ab	-
om.	236cd	-	-	139cd	-
c.r.	237	122	134	140	-
om.	-	prose [V]	prose [V]	prose [V]	-
om.	238	-	135	141	-
om.	-	-	prose [VI]	-	-
v.r.	239	123	136	142	-
om.	-	prose [VII]	prose [VII]	prose [VII]	-
c.r.	240	124	137	143	-
om.	-	prose [VIII]	prose [VIII]	prose [VIII]	-
c.r.	241-6ab	125-30	138-143	144-9	-
om.	-	132cd-3	145cd-6	151cd-2	-
v.r.	246cd	135ab	148ab	154ab	-
om.	246ef	-	-	154cd	-
v.r.	247ab	135cd	148cd	155ab	-
om.	247cd-48	-	-	155cd-56	-
c.r.	249ab	139ab	152ab	160ab	-
om.	-	139cd	152cd	161cd	-
om.	249cd	-	-	161ab	-

	KSS	KM/P/B	GOS/PSS	BI/KSS$_2$	B_2 [~K_{all}]
c.r.	250	134	147	153	-
c.r.	251-2	73cd-5ab	81-2	88cd-90ab	-
c.r.	253ab	136ab	149ab	92cd	-
v.r.	253cd-5ab	75cd-7ab	83-4	90cd-2ab	-
c.r.	255cd-6ab	136	149	92cd-3ab [cf. 175]	-
c.r.	256cd-7ab	77cd-8ab	85	93cd-94ab	-
om.	-	137	150	158	-
c.r.	257cd-ef	138	151	159	-
v.r.	258	78cd-9ab	86	94cd-ef	-
om.	-	139	152	160	-
c.r.	259-60ab	140-1ab	153-4ab	161cd-2ab	-
om.	-	141cd	154cd	162cd	-
c.r.	260cd-1ab	79cd-80ab	87	95	-
c.r.	261cd-2ab	142	155	163	82cd-3ab
om.	262cd	-	-	164ab	83cd-4ab [cf. 295]
cf.	263-4	83-5ab	90cd-2	98cd-100	-
om	-	143	156	164cd-ef	84cd-5ab [cf. 296]
c.r.	265-7ab	144-46ab	157-9ab	165-7ab	[om. 265-6] 85cd
om.	-	147-50ab	160-62	168-70	-
v.r.	267cd-9	175-6	190-2	200cd-2 [cf. 32, 17ab]	86-8ab
om.	270-1	- [cf. 32, 17ab]	- [cf. 32, 17]	203-4	-
c.r.	272-8	177-183	193-200ab	205-11	88cd-94
om.	279-86	-	-	212-9	-
c.r.	287-91ab	184-88ab	200cd-5ab	220-4ab	95-9ab
om.	291cd-92	-	205cd-6	224cd-5	99cd-100
v.r.	293-300ab	188cd-96ab	207-14	226-33	101-8ab
om.	-	196cd-99ab	215ab, 17-9ab	234-6	108cd
v.r.	300cd	199cd	215cd; 219cd	237ab	109ab
om.	-	200ab	220ab	237cd	-
v.r.	301-2ab	200cd-201	216; 220cd-1	238-9ab	109cd-10
om.	-	202	222	239cd-40ab	111
v.r.	302cd	203ab	223ab	240cd	112ab
om.	-	203cd	223cd	241ab	-
c.r.	303-8ab	204-9ab	224-9ab	241cd-6	112cd-8ab
om.	308cd-9ab	-	-	247	118cd-9ab
om.	-	-	-	-	119cd-20
c.r.	309cd-13	209cd-13	229cd-33	248-52ab	-
om.	314ab	-	-	252cd	-
c.r.	314cd-6	214-6ab	234-6ab	253-5ab	-
om.	317-21	216cd-20	-	255cd-9	-
om.	-	prose [IX]	-	prose [IX]	-
om.	322-6	221-5	-	260-4	-
om.	-	226-9ab	236cd-9	269cd-72	-
om.	327-30	-	-	265-8	-
c.r.	331-32ab	229cd-30	240-1ab	269ab, 273-4ab	-
v.r.	332cd-40ab	231-36ab	241cd-6	274cd-86	-
c.r.	340cd-41	236cd-37	247-8ab	287	-

	KSS	KM/P/B	GOS/PSS	BI/KSS_2	B_2 [~K_{all}]
om.	-	238-9	248cd-50ab	288-9	-
c.r.	342	240	250cd-1ab	290	-
v.r.	343ab	241ab	251cd(-ef)	291ab	-
om.	343cd-44ab	-	-	291cd-2ab	-
c.r.	344cd-56ab	241cd-54ab	252-64	292cd-304	[om. 344cd-7ab] 121-9
v.r.	356cd	254cd	265ab	305ab	130ab
c.r.	357-63ab	255-60ab	265cd-70	305cd-10	130cd-6ab
om.	-	260cd-61ab	271	311	-
c.r.	363cd-66ab	261cd-64ab	272-4	312-4	136cd-9ab
v.r.	366cd-69ab	264cd-65	275-6	315-8ab	139cd-40ab [om. 367cd-9ab]
c.r.	369cd-74ab	266-70	277-81	318cd-23ab	140cd-5ab
v.r.	374cd-77	271-4	282-5	323cd-7ab	145cd-8
om.	-	275ab	286ab	327cd	149ab
c.r.	378	275cd-76ab	286cd-7ab	328	149cd-50ab
om.	379ab	-	-	329ab	-
c.r.	369cd-89	276cd-86	287cd-97ab	329cd-39	150cd-60
om.	390ab	-	-	340ab	-
c.r.	390cd-91	287-88ab	297cd-8	340cd-1	161ab-2ab
v.r.	392ab	288cd	299ab	342ab	162cd
c.r.	392cd-97ab	289-93	299cd-304ab	342cd-7ab	163-7
om.	397cd-403ab	-	304cd-10	347cd-53ab	168-72ab [om. 400cd-1]
om.	403cd	-	-	353cd	172cd
om.	404-5ab	-	311-2ab	354-5ab	173-5ab
om.	405cd-6	-	cf. 312cd	355cd-6	174cd [om. 406]
om.	407	-	313	357	175
om.	-	-	314ab	-	176ab
om.	408	-	-	358	[om. 408ab] 176cd
om.	409-18	-	314cd-24cd	359-69ab	177-87ab
om.	419	-	-	369cd-70ab	-
om.	420	-	326	370cd-1ab	188cd-9ab
om.	421-2	-	-	371cd-3ab	-
om.	423-4	-	325, 327	373cd-5ab	187cd-8ab, 189cd-90ab
om.	425-41	-	-	375cd-92ab	192cd-211ab
om.	442	-	328	392cd-3ab	190cd-1ab
om.	443	-	329	393cd-4ab	191cd-2ab
om.	-	-	-	-	212cd-4ab
om.	444-76ab	-	-	394cd-426	214cd-45
om.	476cd-8	-	330-2ab	427-9ab	246-8ab
om.	-	-	332cd	-	-
om.	479-84	-	-	429cd-35ab	248cd-54
om.	485-9ab	-	333-7ab	435cd-9	255-9ab
v.r.	489cd-92ab	294-296	337cd-40ab	440-2	259cd-60, 266cd-7
om.	492cd-3ab	-	-	443	268
c.r.	493cd-5	297-299	340cd-3ab	444-7ab	269, 261-2
om.	496-7ab	-	-	447cd-8	263-4ab

	KSS	KM/P/B	GOS/PSS	BI/KSS$_2$	B$_2$ [~K$_{all}$]
v.r.	497cd	300ab	343cd	449ab	264cd
om.	498	-	-	449cd-50ab	-
v.r.	499-500ab	300cd-1	344-5ab	450cd-1	265-6ab
om.	500cd-1	-	-	452-3ab	270ab [om. 501]
c.r.	502	302	345cd-6ab	453cd-4ab	270cd-1ab
om.	-	303-5ab	346cd-8	454cd-6	271cd-3
om.	503ab	- [cf. 307cd]	- [cf. 350cd]	457ab	281ab
c.r.	503cd-4ab	305cd-6	349-50ab	457cd-8	281cd-2ab
om.	-	307ab	350cd	459ab	-
c.r.	504cd-11	307cd-14	351-8ab	459cd-66	282cd-83, 274-7ab
om.	512	-	-	467	277cd, 287ab
c.r.	513-4	315-6	358cd-60ab	468-9	287cd-9ab
om.	515-6ab	-	-	470-1ab	289cd-90
c.r.	516cd-9ab	317-9	360cd-3ab	471cd-4ab	[om. 516cd-8ab] 291
v.r.	519cd	320ab	363cd	474cd	292ab
c.r.	520-2	320cd-3ab	364-6	475-7	292cd-3ab, 278-9
om.	523ab	-	-	478ab	280ab
v.r.	523cd	323cd	367ab	478cd	280cd
om.	524-5ab	-	-	479-80ab	293cd-4
v.r.	525cd	324ab	367cd	480cd	297ab
om.	526-8ab	-	-	481-3ab	297cd-9ab [om. 528ab]
v.r.	528cd	324cd	368ab	483cd	-
om.	529ab	-	-	484ab	-
v.r.	529cd-30	325-6ab	368cd-9	484cd-5	-
om.	531ab	-	-	486ab	-
c.r.	531cd	326cd	370ab	486cd	-
om.	532-4ab	-	-	487, 489-90ab	-
c.r.	534cd-5ab	327	370cd-1ab	488	-
v.r.	535cd-7	328-9ab	371cd-2	490cd-3ab	-
v.r.	538-42	329cd-334ab	373-7ab	493cd-500	-
c.r.	543ab	334cd	377cd	501ab	-
om.	543cd-45ab	-	378	501cd-2	299

In the following analysis of NŚ 31 the common and variant readings have not been taken into account as they constitute the stable factor of the whole transmitted text. The omissions and additional readings, on the other hand, provide useful data to support the idea of versions. A preliminary survey yielded the following results:

[1] A group of about 94 verses from KSS (*i.e.* vv. 76-169ab) is completely missing in the corresponding chapters of the KM and other edns. This long section describing the characteristics and types of heroes and heroines (*nāyaka-nāyikā-bheda*), seems to be a repetition from another part of the Nāṭyaśāstra.[127] It has thus unmistakably been inserted in

---

[127] The original location of this passage is the chapter on *sāmānyābhinaya* (KSS 24, 168-268ab; BI/KSS$_2$ 24, 177-274ab; GOS/PSS 22, 178-278ab; KM 22, 169-267ab). An interesting feature of the text preserved in ch. 31 is that it appears to be in a much better condition than that of ch. 24. This means that enough time had elapsed allowing the reading of ch. 24 of the KSS Mss. to deteriorate, but

the *tāla* chapter of the KSS by error. We shall refer to his group of 'alien' verses as passage 'A'.

[2] In a passage where KM and KSS fairly agree with one another, the text of the former suddenly breaks off at v. 293d [marked by dots] whereas the latter continues with about 92 verses (*i.e.* 397cd-489ab).[128] This section (passage 'B' onwards) that cuts through various topics in KSS,[129] is completely omitted in KM Mss. In fact, the text of the KM breaks off in the middle of the treatment of the *rovindaka* composition and continues (v. 294) till the middle of that of *geyapada* (*i.e.* a variety of *lāsya* dance composition), whereas in the KSS the treatment of these two topics along with that of others,[130] is found in its entirety. There seems to be no logical explanation for such an omission from the KM Mss. except that of loss; we may therefore safely assume that at an earlier stage the archetype of the KM Mss. once included the whole missing portion, or at least parts of it, which in due time was completely lost, presumably after suffering extensive damage.

The possibility of physical damage to the KM Mss. being responsible for the disappearance of passage 'B' seems to be supported by two important facts. First, damage to the text of the KM Mss. is not unknown, as attested to by numerous lacunae throughout the last quarter of that work. As for the lacunae in its *tāla* chapter (i.e., vv. 150ab, 153b-d, and 293d) the last one can be filled up perfectly by passage 'B', as has indeed been done by the editor of the BI edn. (cf. Table no. 9). Second, a glance at the corresponding passage in GOS shows that the latter has not preserved passage 'B' in its entirety; less than the half (about 34 verses) is retained there. Note further that it contains about 57 additional 'stanzas' which do not occur in KSS, whereas the latter has about 118 more than GOS.

Note that GOS preserves the verses from Passage 'B' in a fragmentary form, interrupted by omissions at regular paces.[131]

[3] Besides verses, there occur about nine prose passages as examples of the verbal element of the *gītaka-s*, *i.e.* complex musical compositions. None of them are numbered in KM (as well as GOS and BI), whereas in KSS only the first four occur, which are numbered as vv. 199,

---

definitely after the bifurcation of the KSS and KM versions of the text, because the latter version does not have this problem.

That the error of repetition was not the work of the editors, but that of scribes from the past, is testified by the fact that the parallel passages under discussion in both chapters of the KSS are replete with variant readings. There seems to have been considerable confusion among the scribes about the proper place of this passage, as appears from the fact that Ms. '*ka*' of the KSS edn. even excluded the above-mentioned passage from chapter 24 (see KSS edn., p. 281, n. 2). Ghosh must have noticed this corruption because he excludes the entire passage from the thirty-first chapter of his edition.

[128] R. M. Kavi (1934, xiv) had noticed this lacuna, and also that the A.Bhā. (i.e. GOS edn.) omitted about half the number of verses, but interpreted this discrepancy in terms of different recensions.

[129] E.g. *rovindaka* vv. 388cd-99, *uttara* vv. 400-441, *catuṣpadā* vv. 442-76ab, *lāsya* vv. 476cd-84, and *geyapada* vv. 485-90.

[130] For example, the rules as pertaining to *uttaratāla, catuṣpadātāla*, etc., *tāla* rules in Dhruvā songs, *lāsya*, etc. Cf. preceding note.

[131] In order to explain this situation one could assume that passage 'B' once existed in its entirety in the GOS Mss., but, in due time became tattered due to damage to the original material. If a direct, or lineal descent from the GOS to the KM Mss. is assumed, there may be a way to explain why it is completely absent in the latter. It is possible that by the time the GOS bifurcated into the KM branch, the scribes, compilers, etc. dropped the mutilated passage, presumably because the damaged folios may have become too worn out to make any sense from them.

201, 204 and 207. If the prose passages in KM had been numbered, its total number of 'stanzas' would increase by 9.

[4] Apart from the two above-mentioned large passages ('A' & 'B') there are still many lines or small passages that are omitted in one or two of the principal editions. It seems that whenever the KM Mss. omit certain verses, the GOS Mss. omit them too,[132] except for a limited number of lines,[133] but conversely, the former hardly retain materials, which have been omitted in the latter.[134] This state of affairs seems to indicate that the latter antedates the former, whereas the KSS Mss. antedate them both. On the ground of this hypothesis one could explain certain omissions in GOS and subsequently also in KM. It is conceivable that at one stage when the GOS Mss. started separating from those of the KSS, they retained some of the materials which had already started crumbling in the latter,[135] but when the KM version branched off from the GOS, it eventually lost most of that material and eventually retained only two passages (see above, n. 134).[136]

About 121 (additional) lines from KSS appear to have been omitted in KM, and about 93 from KM in KSS. If it were certain that the Mss. of both versions derive from one exemplar, or belong to a single and 'closed' textual tradition, one could possibly restore the text by filling the 'lacunae' from one Ms. with contextually fitting 'additional' fragments from the other, and *vice versa*. Accordingly, the KSS Mss. would receive about 47 additional stanzas, the KM Mss. 60 and the GOS Mss. 118.

Table 10 Approximate No. of vv. in NŚ 31 of the principal edns. after preliminary restorations.

Principal editions.		KSS	KM	GOS
Total No. of vv. in printed eds.		545	334	378
[1] Passage 'A' deleted from KSS	±	94		
[2] Passage 'B' restored to KM	±		92	
[3] Prose passages numbered in KM	±		9	
[4] Additional passages restored	±	47 [from KM]	60 [from KSS]	118 [from KSS]
Hypothetical total:	±	498[137]	495	496

One could thus conclude that (1) when passage 'A' is removed from the *tāla* chapter of KSS; (2) passage 'B' is restored to KM; (3) the nine unnumbered prose passages from KM are numbered, and (4) the lacunae from one type of Mss. are filled up by fitting 'additional' passages from other Mss., it follows that the hypothetical total number of verses in KSS, KM and GOS amounts to about 498, 495 and 496 respectively. What strikes one most is that the sum total of stanzas in all the 'archetypal' versions amounts to about 500! If this is not sheer coincidence, it is most likely that the original exemplar, from which the extant Mss. seem to have been derived, may have had about 500 stanzas.

---

[132] *I.e.*, KSS vv. 3ab, 9cd, 11ab, 13-4ab, 16ab, 23cd, 25ab, 30ab, 33ab, 35cd-36ab, 39cd, 42cd, 67cd-871, 73, [76-169ab], 169cd, 175, 187cd, 232, 236cd, 246ef, 247cd-49, 262cd-3ab, 270-1, 279-86, 308cd-9ab, 314ab, 327-30, 343cd-44ab, 379ab, 390ab, 403cd, 408, 419, 421-2, 425-41, 444-76ab, 479-84, 492cd-3ab, 496-7ab, 498, 500cd-1, 503ab, 512, 515-6ab, 523ab, 524-5ab, 526-8ab, 529ab, 531ab, 532-4ab.

[133] *I.e.*, GOS vv. 10cd, 11cd, 35cd, 36cd, 67, 69ab, 86, 135, Prose passage VI, 169cd, 182ab, 205cd-6, 304cd-37ab, 378.

[134] *I.e.*, KM vv. 10cd, 216cd-25.

[135] *I.e.*, GOS vv. 9ab, 10cd, 11, 15cd, 19cd, 35cd, 46cd, 52-3, 55ab, 62-3, 64cd-ef, 66cd, 75-80, 179cd-80ab, 189, 90cd-100ab, 105, Prose passages V-VIII, 145cd-6, 150, 152, 154cd, 156, 160-2, 215ab, 217-9ab, 220ab, 222, 223cd, 236cd-9, 248cd-50ab, 271, 286ab, 314ab, 332cd, 346cd-8, 350cd.

[136] Only when the uniqueness of the additional lines or passages from each version is examined, and we have determined whether they are essential part of the original text, or later additions, will it be possible to say anything conclusive about this postulated line of evolution.

[137] If the difference of about 57 additional 'stanzas' in GOS were added to KSS, this number would be 508.

Having shown that our principal editions, as far as the *tāla* chapter is concerned, do not differ much in length and contents (and having thereby indirectly rejected the recension theory), we will assume in the rest of the discussion that the existing Mss. of the NŚ belong to a single and 'closed' tradition and were transmitted with minor collateral bifurcations. The bifurcations, which have been identified above as the KSS, KM and GOS versions, presumably emerged as a result of sustained damage to and mishandling of the material in different periods and regions.

1.2.5 Principles of reconstructing the text

As indicated earlier, the main problem with the text of NŚ 31 is that the existing editions are not reliable because they contain numerous lacunae and displaced passages, which render the chapter unreadable. To make the text accessible, all these problematic passages have to be identified, deconstructed, reconstructed or relocated. With the means at hand, I have tried to establish an intelligibly ordered text and correct the most serious mistakes to the best of my ability.

Not only numerous verses, but even entire sections appear to have been replaced from their original place. The place where they occur does not seem to be logical and thus they would require to be relocated to their proper place. However, in most cases I have not interfered with the text, but only advised the reader to skip a certain passage and proceed to the section that should occur next according to a logical order of exposition. On the other hand, some lines appear to have been lost, whereas others clearly appear to be later accretions. In some situations, it was impossible to avoid minimal alterations by way of rearranging verses or sections, and to make fresh selections from the variant readings based on philological considerations.

It is evident that the text I have reconstructed is not a critical edition in the strict sense of the word. Although I have utilized a number of manuscripts, none could be singled out as decidedly better and more authoritative than any other. It may therefore best be described as eclectic. My choice of readings was generally guided by reasons of logic and meaning. It should be realised that now the issue of recensions has been eliminated, the cognate versions can easily be combined to form an edition on eclectic principles. As a matter of fact, there has been a tradition of eclectic editions of the NŚ (e.g. Grosset, Kavi, Ghosh and Śāstrī), and as transpired from our own investigation, this is perhaps the only possible approach if we want a text which is intelligible, lucid and systematic. Despite the problems inherent in it, an emendated and eclectic version of these corrupt texts is the best that we have to work with.[138] However, when despite our efforts and the fortuitous and indirect help derived from extraneous sources to improve on the readings fail, we shall have to leave many portions untouched, in a hopeless state. For those passages translations will be avoided; only a conjectural summary will then be given.

---

[138] In extreme cases plausible readings should be preferred to those which are obviously corrupt, but since there is usually no way to validate conjectural emendations beyond the test of metre and sense, this method should be restricted to the extreme minimum. Emendations have not been made in those cases where there is not enough external testimony to confirm or reject them with any feeling of confidence. Pure guesses have as a rule been avoided or clothed in suggestive notes.

The current textual disparities between the Mss. of the NŚ may, in fact, be explained as nothing but scribal errors, additions, interpolations etc., which "can be easily detected and eliminated by critically checking and collating the text with several original manuscripts collected from different parts of the country" (Ramaswami ^{2}1956: 9). Explaining the major divergences (in chs. 5 & 6) as interpolations, he further states that "... some commentators of the *NŚ.* might have effected some changes in the text to suit their own methods of interpretation, and some scribes might have mixed up portions of other later writers with the text of the *NŚ.* " (*ibid.*) We are further inclined to share Ramaswami's conclusion that "there is no wide divergence among the variants of the manuscripts of the NŚ., which may warrant for the division of the text into two recensions..." (*op. cit.*, p. 10), because this conclusion seems to apply to the thirty-first chapter of the NŚ.

From the examination of the available materials, it seemed that they could be divided into what we have designated as the KSS, KM and GOS versions. In fact, KSS shows some significant divergences with KM and GOS, and the latter two show closer agreement with one another than with the former, though at times these relationships are reversed completely. The nearness of the GOS to the KSS, on the one hand, and to the KM on the other, accords an intermediate position to the GOS. In other words, standing between KSS and KM, it seems to represent an earlier version than the KM, as seems to be corroborated by the relatively higher degree of omissions committed in the KM Mss.

For reasons mentioned above, the KSS version has been selected as our basic text. I try to improve or reconstruct it. The main objective therefore is to reconstruct the exemplar of the KSS Mss. by means of M & N.

The M/N and the KSS Mss. have peculiar errors in common and therefore definitely belong to the same version, as against the Mss. of the KM and GOS. So, wherever the KSS seems to be corrupt or lacunal, I try to reconstruct the text by means of the M/N Mss. When, however, this proves dissatisfactory, I turn to the Kathmandu, KM and GOS Mss. The value of the K Mss. lies in the fact that they represent an intermediate version between KSS and KM. In this respect, they resemble the GOS and the B_2 ms.

The emendations and reconstructions thus accepted for improving the KSS version have been marked in the text by underlining. When lines that are omitted in KSS are restored from other versions, they are not underlined, but presented in plain (*i.e.* regular) type. The reasons that motivated these changes have usually been discussed in footnotes. For easy comparison, all variant readings have been displayed in a separate column next to the text of the KSS version. A disadvantage of this layout is that the translation sometimes occurs on a different page than the text.

Nāṭyaśāstra 31, 1-58

Text, Translation and Comments

2.1 Introduction of *tāla*

KSS/KM/GOS/BI 31, 1[139]

The opening verse of NŚ 31 is liable to a number of interpretations and in that regard may also be interpreted as a general or perhaps more specific description of *tāla*, the central notion in the system of rhythmic organisation. It is therefore by implication commonly regarded as a comprehensive or partial definition. If this assumption is valid,[140] the verse represents the *locus classicus* of early musicological literature where the rhythmic system, or some of its aspects, are characterised or defined for the first time. This is attested to by at least two later sources which quote or paraphrase this verse as Bharata's 'definition' of *tāla*.[141] Apart from some general observations on its contents, I have tried to discuss some of the interpretative problems in the opening verse.

1 *tālo ghana iti proktaḥ,* [142]*kalāpātalayānvitaḥ*	*tālo ghana iti proktaḥ* KSS/BI/M/B$_2$ {*tāle ghana* TD} *vādyaṃ tūryāyanaṃ proktaṃ* KM *vādyaṃ tu yad dhanaṃ proktaṃ* GOS {*tu ya ghanāṃ* P *ya yanāṃ* B$_1$}; *kalapāta°* KSS *kalāpāta°* KM/GOS *kālapāta°* M *mātrāpāta°* 'Ḍa' (GOS Ms.) *mātrāpātra°* K$_1$; *°ānvitaḥ* KSS/KM *°ānvitam* GOS/B$_2$
kālasya tu pramāṇaṃ vai vijñeyaṃ tālayoktṛbhiḥ	*kālasya tu pramāṇaṃ vai* KSS *kalās tasya pramāṇaṃ hi* KM/BI {*kālas tasya* GOS/P/B$_{1.2}$/M/'Kha' (KM Ms.) *kālas tv asya* K$_1$ (metathesis of last two words)}; *°yoktṛbhiḥ* KSS *°yogataḥ* KM/GOS/P/B$_1$

---

[139] Cf. translations of Ghosh 1961, 53 and E. te Nijenhuis 1970, 319.

[140] Only few verses further there occurs another definition-like statement (cf. KSS 31, 7 *kalākālapramāṇena tāla ity abhidhīyate*), which could easily be seen as another definition of *tāla*. However, the authenticity of this line as a *tāla* definition is doubted, because it is not cited or referred to in that sense by important scholars of the post-Bharata era.

[141] Namely Sudhākara (on SR 5, 42), p. 27 and Tāladīpikā (GOML, Ms. 010) fol. 1. Both sources quote the KSS version and differ only in reading *hi* instead of *vai*. The Tāladīpikā further differs by reading *tāle ghana*.

[142] KSS *kalā°* is not supported by any other ms., not even by the Mss. closely allied to it such as M and 'Ḍa' (GOS ms.). The word *kala* as such is not used in the *tāla* chapter and the reading intended here is most probably *kalā°* as attested in KM/GOS. Aside from the usual gender related modifications at the end of compounds (e.g. *catuṣkalaḥ*, *catuṣkalā*, *catuṣkalaṃ* 'having four *kalā-s*') the word *kalā* normally occurs without any modification at the beginning of compounds (e.g. v. 7a *kalākāla°*, 28a *kalādvādaśako*, 28c *kalāṣṭa°*, etc.). However, in some cases KSS reads *kala°* (e.g. 1b *kalapāta°*, 27b *kalaṣoḍaśakaḥ*, v. 74b *kaladvaye*), while other versions have the normal *kalā°*. This evidence suffices to conclude that the KSS readings discussed here are nothing but scribal errors, which justify the emendation to *kalā°*.

<1> *Tāla* has been taught as an idiophone (*ghana*) [in NŚ 28, 2c]. However, when used in connection with [rhythmical factors such as] [143]*kalā*, *pāta* and *laya*, it is a measure of musical time which should verily[144] be known by musicians applying it.

The various meanings of the word *tāla* have been discussed below, in chs. 4-9; the one intended here appears to be that of cymbals and their application,[145] as suggested by the explicit mention of cymbals (*tāla*) as idiophones (*ghana*). However, this poses historical difficulties. Even though all extant Mss. support the readings above, there is reason to believe that the mentioning of cymbals and idiophones in the NŚ is 'suspect'. In §§ 4.2 and 5.2 I prove this point by arguing that a) cymbals, which represent the family of idiophones, appear relatively late in ancient India, *viz.* around the first century CE; b) accordingly, the NŚ is relatively silent about (the application of) cymbals and other idiophones, except for a few music-historically suspect instances where the fully developed system of four classes of musical instruments is mentioned;[146] and c) that they are also not mentioned in the ensembles that perform during the play and theatrical preliminaries (*pūrvaraṅga*), nor at their beginning when the musical instruments are arranged on the stage (*pratyāhāra*).

In contrast with the silence about cymbals, the NŚ is only concerned with *tāla* cheironomy, *i.e.* the system of time measurement with the gestures of the hand, arm and fingers. It seems that once the quality of Indian brass was improved by Greek influence,[147] the first cymbals occur on sculptures at Mathurā. When their specific characteristics were recognised, they were soon introduced as musical instruments to reinforce *tāla* cheironomy. In this situation, the role of cymbals, though important, could never have superceded that of the cheironomy, unless one considers that after their introduction they became so popular that *tāla* cheironomy could not be imagined without their support. This relative importance of cymbals evidently explains their being mentioned at the beginning of NŚ 31. Their organisation into a separate group as well as their description, apparently took place long after the NŚ was compiled, at least its older layers. During later adaptations of the work, new developments were as a rule integrated into the respective chapters.[148] It is in this light that I try to understand the loosely-knit references to cymbals and idiophones in the NŚ.

---

[143] Just like the word *tāla* in this verse, the words *kalā* and *pāta* are also ambiguous and therefore left untranslated. For the time being we may take *kalā* (unit of time), *pāta* (beats) and *laya* (pause/tempo) as a partial enumeration of related and fundamental concepts from the realm of the ancient rhythmic system, which are duly treated in succeeding verses.

[144] I show below (in ch. 5) that this verse is both a logical continuation of what was announced at the end of the preceding chapter, as well as a direct follow up of what was introduced earlier in NŚ 28, 2 about *ghana-s*. Since Bharata does not properly introduce this chapter, nor indicate its usefulness, Abhinavagupta tries to make up this 'lapse' by twisting the verse in such a way that he could ultimately read a logical plan imbedded in it. Abhinavagupta, as usual in accordance with GOS/KM, did not read the emphatic particle *vai*, but *hi*, which he accepted in the sense of expressing a reason. In this way he tries to explain why Bharata used this particle, namely to show a logical connection between what is stated here in the first half of our verse and at the end of the previous chapter (GOS 30, 12cd *ataḥ paraṃ pravakṣyāmi ghanātodyavikalpanam*). "[The particle] *hi* [in NŚ 31, 1]," he explains, "has a causal meaning (*yasmādartha*): 'because' the *ghana* instrument [or, the playing of a *ghana*] is appropriate [to indicate or measure time] in the way [as indicated by NŚ 31, 1], I will therefore (*tasmāt*) explain its various aspects [in NŚ 31] (A.Bhā. p. 152. 26-7: *hi yasmādarthaḥ* | *yasmād evam upayogi ghanātodyaṃ tasmāt tadvikalpanaṃ vakṣyāmīti*)."

[145] Other interpretations are also possible, as discussed below.

[146] Cf. NŚ [KM ed.] 6, 30; 28, 2; 31, 1 and 34, 31. In three of these cases *ghana* is mentioned in a context that deals with four kinds of musical instruments.

[147] For example by forging or hammering the brass alloy. See further, ch. 5, n. 449.

The interpretation of this verse is not easy as it is impeded by the barrage of key terms (viz *tāla*, *ghana*, *kalā*, *pāta*, *laya*, *kāla* and *pramāṇa*), most of which have multiple layers of technical meanings and connotations. It should however be noted that in the context of the metrical or rhythmical organisation of music, these terms relate to the fundamental notions of time and action.[149] Both notions converge in the central notion of *tāla*, as shall be seen below, when discussing its various meanings and connotations.

Even though some of the above-mentioned terms have been 'explained' in subsequent verses, the opening verse remains evasive. The term *tāla* is used in at least thirteen different meanings ranging from that of a particular cymbal, up to that of the metrico-rhythmical system that supports the performing arts.[150] This allows for ambiguities and confusion as for example demonstrated by Siṃhabhūpāla's misinterpretation of the verse. Commenting on Śārṅgadeva's words that numerous *saṃkīrṇa* patterns have been accepted by tradition (SR 5, 40c *saṃkīrṇā bahavo matāḥ*), he quotes NŚ 31, 1 as an authorisation, to show that Bharata too has proclaimed that '*Tāla* has been said to be manifold [...].' (*tālo ghana iti proktaḥ* ... etc.). However, this verse is just introducing *tāla*, where nothing is said about the *saṃkīrṇā* type, let alone its number. Siṃhabhūpāla obviously misinterpreted the word *ghana* in the common sense of a 'multitude/collection/mass', etc., whereas in NŚ 31, 1 it is unmistakably used in the technical sense of a 'solid' instrument, such as a cymbal, etc.[151]

As regards the first foot, KSS and GOS yield relatively good readings, unlike KM, which shows signs of advanced corruption.[152] The KSS version juxtaposes the nouns *tāla* and *ghana* followed by the verbal clause *iti proktaḥ*. We may safely assume that *tāla* is the subject here, which is qualified by the rest of the verse. This procedure suggests that *tāla* is also the subject of the following phrase (*kālasya tu pramāṇaṃ*), and as *pramāṇa*, indirectly the object of *vijñeyaṃ*.

However, the main problem here is that the word *tāla* allows for more than one interpretation. In the translation above, *tāla* has been interpreted in the sense of a percussion instrument, more specifically as cymbals. The main reason for this particular interpretation has been the direct reference (*iti proktaḥ*) to NŚ 28, 2c where during the introduction of the main musical instruments *tāla* is indeed related to *ghana*, *i.e.* the group of idiophones (see further § 5.3). Two other possible interpretations need to be mentioned. When the ancient meaning of rhythmic gesticulation (cheironomy) is taken, the verse translates as follows: "Cheironomy has been said to relate to [the performance of] cymbals. However, [...] those who perform cheironomy should know it as the measure of musical time." Subsequently, *tāla* in its functional meanings as a measuring, supporting, or coordinating factor is also possible. The idea that emerges is that '*Tāla* (as the organising principle) is said to be [connected to the practice of] cymbals. [...].' Similarly, other meanings of *tāla* may be substituted, though not all of them make sense in the verse, e.g., when it means, time, action, a *tāla* type, etc.

---

[148] The inherent heterogeneity of the NŚ needs no further explanation; the text has been virtually "composed by putting together elements, in prose and verse, that are mutually exclusive and have been linked one with the other by means that are at best no more substantial than say subsumption under a common heading." (Srinivasan 1980, 7).

[149] Although time and action, and particularly the latter, imply the notion of space (= spatial dimension), the latter is not the primary concern of music, but more appropriately that of dance, sculpture, etc.

[150] See further, § 3.3 below.

[151] See further, § 6.4.6 below.

[152] The KM and GOS versions, which usually follow one another, differ here 'slightly' obviously due to extensive corruptions. The GOS reading is a misprint for *yad ghanaṃ* as attested by a repetition of the entire verse [with the correct reading] in the text of the commentary (see A.Bhā. Vol. IV, p. 151, ll. 1 and 15). Moreover, the latter reading underlies the corrupt reading of the KM edn. (*tūryāyanaṃ*), as well as of those of other related witnesses (e.g., *tu ya yanāṃ* B_1; *tu ya ghanāṃ* P; *tu yad dhanaṃ* GOS edn.). Given the corrupt nature of both the KM and the GOS mss., one could tentatively infer that they all derive from a single, corrupt exemplar.

In the given context, *kalā*, *pāta* and *laya* appear to be important, if not the most essential components of rhythmic organisation. The first two are usually interpreted as generic terms indicating two separate categories of beats, whereas *laya*, the last member of the compound, is explained as 'tempo' which is manifested by the pause or 'rest' between successive beats [see further §§ 2.1.1 and 9.7.1]. One could thus assume that they manifest the temporal structure of music, which in essence is the idea of *tāla*.[153] However, philologically, the interpretation of the first two terms involves certain difficulties which merit further consideration.

Post-NŚ sources commonly use the term *kalā* to denote four 'sound-less' or 'silent' gestures (*āvāpa*, *niṣkrāma*, *vikṣepa*, *praveśa*) and *pāta* for three [or four] 'sounding' gestures or beats ([*dhruva*,] *śamyā*, *tāla*, *sannipāta*). Unlike these sources, the NŚ does not use *kalā* and *pāta* explicitly as generic terms to indicate the above-mentioned categories of beats. It sometimes uses *pāta* to indicate the audible beats, but never *kalā* to indicate the silent gestures, at least not explicitly. However, when both terms occur juxtaposed in composition (as for example in vv. 1 and 50), they seem to be used as generic terms.

Unlike the NŚ, later sources clearly define *kalā* and *pāta* as classificatory abridgements of related gestures. This is attested to by the fact that Bharata does not mention these two terms in the list of *tāla* topics (see above, § 1.1, Table 1), whereas contemporary and later authors introduce them as generic terms to group cognate 'topics' under a common denominator: *kalā* came to represent the first four *tāla* topics in the NŚ (i.e. *āvāpa*, *niṣkrāma*, *vikṣepa*, *praveśa*) and *pāta* the following 4 [or 3] (i.e. *śamyā*, *tāla*, *sannipāta* [*dhruva*]). Dattila, for example, the contemporary of Bharata and most important author next to him, follows this line of classification; instead of fully enumerating all 7 [or 8] gestures (vv. 110cd-113ab), he only mentions *kalā* and *pāta*.

There is also a textual reason that calls for a cautious approach. Most of the variants on the compound [with or without *laya*], as found in other places of the text, consistently substitute the term *tāla* for *pāta*.[154] Abhinavagupta, who adapts the compound in his benedictory verse to NŚ 31, also substitutes another word (A.Bhā. p. 151 *kalākālalaya°*). Despite this overwhelming, but still circumstantial evidence in favour of reading *kalātālalayānvitaḥ*, it is not permitted to emendate the text because the related variants in the apparatus do not support the reading of *°pāta* in our verse.

The second hemistich indicates the way *tāla* functions, namely as a *pramāṇa*, *i.e.* as a 'means of measuring' or a standard or measuring device. This meaning of *tāla* has been discussed below, in § 3.3 and 7.3.1. In this particular sense *tāla* requires an object of measurement, which is presented here as musical time (*kāla*). See further § 6.2.1 and 8.2.

---

[153] Rowell 1992, 189.

[154] Cf. *layatālasamanvitam* KSS 5, 33d; *kalātālalayānvitaḥ* 5, 144b; *kalātālasamanvitam* 5, 182d; *kalātālalayānvitam* 19, 74d; 77b (= KM 17, 134b; 136d); *kālatālalayānvitāḥ* 32, 442b; *layatālakalākālapramāṇa°* KM 22, 70ab; *layatālakalopeta°* KM 26, 24c/BI 35, 51c (cf. GOS 26, 11; om. in KSS); *kalātālalaye* KSS 13, 14b; *layatālakalāmānapramāṇayogeṣu°* 32, 459cd (*layatālakalāpātapramāṇayogeṣu°* KM 33, 2c; *°gītatālalayakuśalāḥ* 4b). Compare also *kalāpātavibhāgārthaṃ* GOS 5, 21a, against variants such as *kalāpāṭha-*, *kalābhāga-*, *kalāpāda-*, *kālapāta-*, etc. (GOS Vol. I, p. 74).

2.1.1 *Kalā* and *Laya*

KSS/KM/GOS/BI 31, 2-6[155]

After the 'introduction' of *tāla* (v. 1) there follows an exposition of time units (*kalā*), time measures (*tāla*) and tempo (*laya*). For practical reasons the order of exposition has been slightly changed; first *kalā* (vv. 2-6) and *laya* (4-6) are discussed, then a longer exposition of *tāla* follows (vv. 7-58ab). These three factors, along with the system of gestures (cheironomy), constitute the most characteristic aspects of *tāla*. For a full discussion of *kalā* in a metrical context, see below, § 6.2, and that of *laya* in §§ 6.2 and 9.3-4.

The discussion on *kalā* seems to be polemic by nature because the standard of measuring time, as accepted by other schools of learning, is first presented and rejected, and then its own position is advanced.

Note that even though *laya* has been mentioned in the present section, Bharata touches upon this topic only incidentally in the discussion on *kalā*. The topic of *laya* is treated somewhat more fully towards the end of the chapter (vv. 530cd-532) in a more 'rhythmical' context.

2	*yā laukikī kalā kāṣṭhā nimeṣaś ca smṛtā budhaiḥ*	*nimeṣāś* KSS *nimeṣaś* K_{all}/KM/BI/M/TD; *smṛtā* KSS/ K_{1-3}/GOS *smṛto* K_{4-6}/KM/M/TD
	na sā tālakalā jñeyā hy anyaiṣā tālajā kalā	*tāle kalā* K_{all} *tālakalā* al. omn.; °*aiṣā tālajā kalā* KSS/KM/$K_{1-4,6}$ {°*aiṣām* K_5 *kālajā* M} °*aiṣām tālagāḥ kalāḥ* GOS {*kālā* B_2};
3	[156]*nimeṣāḥ pañca mātrā syān, mātrāyogāt kalā smṛtā*	Om. in KM, but betw. [ ] in GOS; *nimeṣāḥ pañca mātrā syān* KSS/KM {*nimeśā* BI} *nimeṣaikakalā mātrā* $K_{1-4,5}$/B_2 *nimeṣakālo mātrā syān* TD; *mātrāyogāt kalā smṛtā* KSS {*smṛtāḥ* M} *mātrāyogo kalā smṛtā* K_{1-3} {. . *yogāt* B_4 . . *yogo* B_5 °*yogā* B_6} *yā kalā sā kalā smṛtā* B_2
	[157]*nimeṣāḥ pañca vijñeyā gītakāle kalāntaram*	°*āntaram* KSS/KM/$K_{1,5}$ °*āntaraḥ* $K_{2-4,6}$
4	[158]*tataḥ kalākālakṛto laya ity abhisaṃjñitaḥ*	°*saṃjñitaḥ* KSS/KM/K_{all} °*dhīyate* M
	trayo layās tu vijñeyā drutamadhyavilambitāḥ	Repeated in KSS 31, 531cd and 33, 41; cf. *trayonadhās tu vijñeyā bhūta*° TD
5	*yas tatra madhyamalayas tat pramāṇakalā bhavet*	*mando 'tha layas* KSS *madhyamalayas* K_{all} {cf. *madhye vilayas* TD} *yas tatra tu layo madhyas* KM {*yatas tatra* A.Bhā..}; *tat pramāṇakalā* KSS/KM *tatpramāṇā kalā* K_{all}/GOS/TD; *bhavet* KSS/K_{all} /GOS/TD *smṛtā* KM/BI

---

[155] Cf. translations of Ghosh 1961, 53 f. and E. te Nijenhuis 1970, 320 f.

[156] The verse order in the K Mss. (as well as in B_2) is as follows: vv. 3ab, 5cd-6, 3cd, 4, 5ab, 7, etc.

[157] From this line onwards, as far as this chapter is concerned, practically no edition agrees on the number, numbering and order of verses.

[158] Cf. *kalākālāntarakṛtaṃ sa layo nāma saṃjñitaḥ* KSS 31, 535ab *kalākalāntarakṛtaḥ sa layo mānasaṃjñitaḥ* KM 31, 327cd/GOS 31, 327ab {*kalākālāntarakṛtaḥ* BI 488cd}

[159]*trividhā sā ca vijñeyā trimārgaṇiyatā budhaiḥ*	*dvividhā* K$_6$ *trividhā* al. omn.; *sā tu* K$_{all}$ *sā ca* al. omn.; *°mārgā niyatā* KSS {*niyutā* M} *°mārganiyamā* KM/K$_{all}$/B$_2$ *°mārganiyatādbhutaiḥ* GOS {*°niyatā budhaiḥ* BI}
6 *citre dvimātrā kartavyā, vārtike dviguṇā tu sā*	'Ma' Vipulā; *vārtike dviguṇā tu sā* KSS {*vārttavye* M} *vṛttau sā dviguṇā smṛtā* K$_{all}$/KM/BI
caturguṇā dakṣiṇe syād, ity evaṃ trividhā kalā	'Ra' Vipulā; *dakṣiṇā* KSS; *dakṣiṇe* K$_{all}$/KM

<2> The popular *kalā* (unit of time), which, (together with) *kāṣṭhā* and *nimeṣa*, is taught by the experts [from various branches of learning], should not be regarded as the *kalā* [employed] in *tāla*, because the *kalā* belonging to *tāla*[160] is different.

<3> [The duration of] five blinks of the eye (*nimeṣa*) should constitute a *mātrā* and a *kalā* is said to derive from a combination of *mātrā-s*. As for time in music[161] [multiplications of] five blinks should be known to constitute the [variable] *kalā* interval of time.[162] <4> Thence, [the span] determined by a *kalā* (interval of) time is called *laya*; three *laya-s* should be distinguished: [163]'short', 'medium' and 'long'. <5> Among these the [span of one] medium 'rest' should become the standard unit of time (*pramāṇakalā*).[164]

The experts should know it (*i.e. kalā*) as threefold depending on the three *mārga-s*:[165] <6> In *citra* (*mārga*) it should be made of two *mātrā-s*; in *vṛtti* (*mārga*) of twice that number [of *mātrā-s*]; (and) in *dakṣiṇa* (*mārga*) of four times that number [of *mātrā-s*]. In this way *kalā* is [conceived as] threefold.

---

[159] GOS and B$_2$ read the following three lines prematurely after v. 2. Following the A.Bhā., GOS reproduces them [between square brackets] after the line *kalākālapramāṇena tāla ity abhisaṃjñitaḥ* (= KSS v. 7ab). Abhinavagupta comments upon them only at the latter place. The KM$_1$/B$_1$/P also follow the latter order whereas KM$_2$ adopts the KSS order of verses.

[160] Note that the phrase *tālajā kalā* is nothing more than a rephrase of *tālakalā* in *pāda* c. Therefore the literal meaning ('arisen from') seems to be secondary.

[161] Here, *gīta-* 'singing' apparently means 'music' in general.

[162] On the interpretation of *°antaram* see further Gonda 1975, 134 f.

[163] In a musical context the words *druta*, *madhya* and *vilambita* usually mean 'fast', 'moderate' and 'fast' respectively, and refer in particular to the tempi (*laya*) of the same names. However, here in the context of time, or more specifically that of units of time, they refer to their quantitative value, namely the 'short', 'medium' and 'long' values of 'rest' (read: time).

[164] For a different interpretation of this line, see below, § 9.3.

[165] In a rhythmical context the word *mārga* refers to the 'path' that is followed. The practical value of these so-called 'styles' or 'procedures' is that they indicate the correlations between all musical factors involved, such as, for example, *kalā*, *laya*, *vādya*, *yati*, *pāṇi*, etc. They further reveal the intimate relationship existing between some of these factors. In the present passage they indicate the intimate relationship between *mātrā*, *kalā* and *laya*.

Rowell (1992, 206) explains that "*mārga* specifies the duration of the rhythmic path, in effect the time within which a prescribed series of musical actions and events is to be completed." He gives the following analogy: "*Mārga* from a Western point of view is a somewhat eccentric way of expressing the concept of tempo, and indeed that is exactly what is intended---as if to say "Sing the national anthem in eight, or in four, or in two minutes, with all the proportions adjusted accordingly." But *mārga* is experienced not as a prescribed length of time but as the relative density of events within that time span...."

2.2 *Tāla* measures

KSS 31, 7-14cd; KM 31, 6cd-11; 16cd-18ab; GOS 31, 6cd-10; 16-7; BI 31, 6cd-14ab[166]

After introducing *kalā*, the standard unit of time in rhythm, the text now describes the time measures where they are used as building units (KSS 31, 7-58ab). These measures or standard time-patterns, also called *tāla*, represent one of the most characteristic units of rhythmic organisation. First the fundamental divisions into triple (*tryaśra*) and quadruple time (*caturaśra*) are recognised and illustrated by a set of characteristic examples (vv. 7-12). Then a third division of time is mentioned - called 'hybrid' (*miśra*) (vv. 13-14), but its authenticity as a type in the NŚ is doubtful. Likewise, the mention of 'mixed' or 'miscellaneous' (*saṃkīrṇa*) patterns later in the chapter (KSS 31, 44-46) does not prove original recognition of a fourth type. The references to *miśra* and *saṃkīrṇa* have obviously been inserted into the *tāla* chapter to accord these later developments the authority of the venerable NŚ.

The so-called 'hybrid' patterns described in the NŚ are in fact nothing more than variations on triple time (*tryaśra tāla*), whereas the 'miscellaneous' *tāla-s* appear to constitute a genuine class of 'additive' patterns that better deserve to be called 'hybrid'. The problem that clearly presents itself is whether or not *miśra* and *saṃkīrṇa* in the NŚ represent single categories, and subsequently, whether the NŚ recognises two or three or perhaps four classes or types of time-patterns. In the discussion below, I try to clarify this issue by comparing some pertinent passages from the *tāla* chapter as well as parallel passages from other sources. In this regard, attention is drawn to the development of rhythmic types in the history of Indian music.

For an introductory essay of *tāla* and measures, see chapter 6 below.

7	*[167]kalā_[168]kālapramāṇena tāla ity abhidhīyate*	*kala°* M *kalā°* al. omn.; *tālā ity* $K_{2,4\text{-}6}$ *tāla ity* al. omn.; *°dhīyate* KSS *°saṃjñitaḥ* KM/B *°saṃjñitam* K_{all}
	caturaśraś ca tryaśraś ca tālo dvividha eva hi	*caturasraś ca tryasraś ca* KSS {*caturaśraś* M} *caturasras tathā tryasras* K_{all} *tryasraś ca caturasraś ca* KM; *tālo vividha eva hi* KSS {*dvividha* M *dvividha smṛtaḥ* KM/K_{all}}
8	*dvividhasyāpi tālasya tvekā prakṛtir iṣyate*	*trividha°* K_{all}/B_2 *dvividha°* al. omn.; *caikā* KSS *tvekā* KM *ekā* K_{all}; *pratikṛtir* K_1 (add. syll.) *prakṛtir* al. omn.
	tathā yonidvayaṃ cāsya kīrtyamānaṃ nibodhata	*cāsya kīrtyamānaṃ* KSS {*cātra* GOS *cānyā* KM_2} *tālā cānyāmānaṃ* KM_1 *kīrtyam asya mānaṃ* K_1 . . *kīrtyamānaṃ* $K_{2\text{-}6}$

---

[166] Cf. translation Ghosh 1961, 54 f.

[167] In KM_1/GOS/B/P this line occurs immediately before vv. 5cd-6, but KM_2 follows the KSS order (see also. n. 159). That means that according to the order followed by KM_1, etc., v. 7ab occurs after v. 5ab! This sequence lies at the basis of Abhinavagupta's equation of *kalā* and *laya* with *tāla*.

[168] Even though all sources read *kalākālapramāṇena*, it seems justified to analyse the compound as suggested above. This not only solves the problem of interpreting the difficult compound, but also provides the required subject (i.e. *kalā*) in v. 7ab. Notably the notion of *kalā* was dealt with in the preceding section and now it is logically developed further as that of *tāla*. This interpretation is partly supported by Abhinavagupta. See below, nn. 180 f.

9	*cañcatpuṭas tu vijñeyas tathā cāc̲aputo 'pi ca*	*cañcatpuṭas tu vijñeyas tathā cāpaputo 'pi ca* KSS {*vijñeyo* BI} *cañcūpuṭas tu vijñeyā tathā cāyapuṭā budhaiḥ* KM; *caccatpuṭaś ca vijñeyas tathā cācaputo budhaiḥ* GOS/M/K$_{all}$
	catuṣkalo 'tha dvikalas tālo yasmāt pravartate	Om. in KM/GOS; 'Bha' *vipulā*; *dvikalas tālo yasmāt* KSS *trikalas tālo hy atra* K$_{all}$ [cf. *ṣaṭkalo 'ṣṭakalaś caiva tālo hy asmāt* KM v. 16ab/GOS v. 15 cd]
10ab	*caturaśras tu vijñeyas tālaś cañca̲t̲puṭo budhaiḥ*	*cañcūputo* KSS/KM *caccatputo* GOS v. 8 *cācaputo* K$_{all}$
K$_{all}$	tryaśraś cācapuṭaś caiva gurulaghvakṣarānvitaḥ	Om. in KSS; *cācapuṭaś* GOS/K$_{all}$ *cañcūpuṭaś* KM *cāpapuṭaś* BI; *caiva* KM/K$_{all}$/BI *prokto* GOS; cf. *tryaśraḥ sa khalu vijñeyas tālaś cācaputo bhavet* 'Ḍa' (GOS Ms.)
10cd	[169]*prathamam̲ guruṇī kṛtvā laghu cāntyaṃ plutaṃ tathā*	*prathama guruṇī kṛtvā laghu cāntyaṃ plutaṃ tathā* KSS {*prathamaṃ* M/BI *pañcamaṃ* 'Ḍa' (GOS Ms.)} *ādau dve guruṇī yasya laghvekaṃ plutam eva ca* KM {*laghvekaplutam* K$_{all}$ *yatra laghu ca plutam* GOS v. 10ab}
11	[170]*kuryāt cañcatpuṭasyaiva budhaś, cāc̲apuṭasya tu*	*kuryāt cañcatpuṭasyaiva budhaś cāpapuṭasya tu* KSS *akṣarāṇāṃ niveśena sa tu cañcūpuṭas tadā* KM/BI {*nimeṣas tu tālaś cañcatpuṭas tu saḥ* K$_{all}$/B$_2$}
	[171]*ādau gurvakṣaraṃ jñeyaṃ, laghunī, guru caiva h̲i̲*	*jñeyaṃ laghunī guru caiva saḥ* KSS {*caiva hi* GOS v. 9ab} *yatra ante laghuni caiva hi* KM *yatra laghuni guru caiva hi* K$_{all}$/BI v. 11cd
12	*tryaśraḥ sa khalu vijñeyas tālaś cāc̲aputo b̲u̲d̲h̲a̲i̲ḥ̲*[172]	Om. in B$_2$; *cāpaputo bhavet* KSS {*cācaputo* M} *cañcūpuṭāśrayaḥ* KM *cācaputo budhaiḥ* K$_{all}$/GOS v. 9d
	[173]*anayor miśrabhāvāc ca miśras tālaḥ prakīrtitaḥ*	*anayor miśrabhāvāc ca* KSS *asya vyāmiśrabhāvāc ca* K$_{all}$/B$_2$; KM transposes to v. 17ab *anayor miśrabhāvaṃ tu* and GOS to v. 16cd *anayo miśrabhāvāc tu*
13	[174]*ṣaṭpitāputrakaś caiva pañcapāṇiḥ sa ceṣyate*	°*putrakaś caiva pañcapāṇiḥ sa ceṣyate* KSS/K$_{all}$; KM transposes to v. 18ab °*putrakakṛtaḥ pañca-pāṇir udāhṛtaḥ* (=GOS v. 17cd)

---

[169] The KM and GOS first mention *tryaśra* and then *caturaśra* (see above v. 7cd). Their subsequent treatment in GOS is therefore also transposed in relation to that in the KSS. That means that the following two lines occur transposed two lines further in GOS (v. 10).

[170] GOS reads *sa vijñeyaḥ prayogajñais tālaś caccatpuṭāśrayaḥ* (v. 10cd), which is omitted in other versions.

[171] The following two lines are transposed two lines earlier in GOS (v. 9). Cf. n. 167.

[172] Next to *vijñeyas* the verbal form *bhavet* (KSS) makes little sense and since this line requires an indirect object, we may read *budhaiḥ*, the experts, as provided by GOS and K$_{all}$. Moreover, the parallel construction of v. 10ab supports such an emendation.

[173] Here KM and GOS insert their variants of KSS v. 29cd. See apparatus *ibid*. and § 6.4.4 below, for discussion of fragment *m* 1b.

	yathoktair abhiniṣpannaḥ svasaṃjñāgurulāghavaiḥ	Om. in KM/GOS; *yathoktair* KSS *yathākṣarābhi°* K_{all}; *°lāghavaiḥ* KSS *°lāghavaḥ* K_{all}/B_2
14ab	*samāsayogāt tālo 'yaṃ trividhaḥ parikīrtitaḥ*	Om. KM/GOS (cf. variants on KSS v. 29ab); 'Ma' *vipulā*; *samāsayogāt tālo 'yaṃ trividhaḥ parikīrtitaḥ* KSS *samāsayogas tv akṣarāṇāṃ tāla ity abhidhīyate* K_{all} {*samāsayoge* B_2}

<7> As a measure of time, *kalā*[175] is called *tāla*. *Tāla* [in this sense] is only of two types: 'quadruple' and 'triple'. <8> Even though *tāla* is of two types, it is considered to have a single [read: common] nature (*prakṛti*). Thus listen [first] to the two [syllabic] 'sources' of this [*tāla* measure] that I (am going to) teach now.[176] <9> They are to be known as *cañcatpuṭa*[177] and *cācapuṭa*, from which the 'two-fold' (*dvikala*) and four-fold' (*catuṣkala*) states of expansion (*tāla*) are derived.

<10ab> The experts should know *cañcatpuṭa* as [representing] *caturaśra tāla* <K_{all}> and *cācapuṭa* as [representing] *tryaśra* (*tāla*); [both of] which are characterised by their [specific patterns of] *guru*, *laghu* and [*pluta*] syllables. <KSS 10cd> [Thus] by placing first two *guru-s* and then a *laghu* and a *pluta* at the end <11> the expert should form [the syllabic structure] of *cañcatpuṭa* alone, whereas that of *cācapuṭa* should be known to have a *guru* syllable at the beginning, [followed by] two *laghu-s* and a *guru*. <12> The experts should (thus) know this *cācapuṭa* [structure] as indeed [representing] *tryaśra tāla*.

However, when their [syllables] are mixed [internally, there emerges a third type] called *miśra tāla*. <13> It is accepted as *pañcapāṇi* ('having five hands'), which is the same as *ṣaṭpitāputraka* ('having sons from six fathers'); it is [also] formed by the length and shortness of syllables occurring in its name as they are pronounced. <14ab> Taken together, *tāla*[178] is [thus] said to be of three types.

2.2.1 *Tāla* as a measure of time

The present section discusses three fundamental measures of *tāla*, i.e., *caturaśra*, *tryaśra* and *miśra*, each of them representing a particular type (see § 6.4). I have therefore interpreted the introductory line as a description of *tāla* in a metrical sense. *Kalā*, which has been described in the preceding section, is now related to the notion of *tāla*, *i.e.* a measure (or bar)

---

[174] Compare v. 19cd, which, in fact, represents a better reading of this line. Analogous to the description of the two earlier *tāla* types, which were illustrated by a representative mnemonic each, one expects that the third type introduced here would also be described by means of a characteristic mnemonic. The example of the *miśra* type given here is called *pañcapāṇi* and is formed according to (the syllabic structure of) *ṣaṭpitāputraka*, i.e., Ś I S S I Ś. Here the words *pañcapāṇi* and *ṣaṭpitāputraka* are apt to be misinterpreted as two separate examples of *miśra tāla*. See further, vv. 19-22ab below.

[175] In the text *kalā°* appears to be compounded with the following words. However, it seems more appropriate to read it separately, that is as the subject of the entire verse.

[176] Cf. A.Bhā. p. 155, l. 18 f.: *adṛṣṭaviśeṣasya hetubhūtaṃ kīrtyamānaṃ āgame prasiddhaṃ yad vakṣyamāṇabhedadvayam.*

[177] Several spellings of these artificial terms are in vogue: *cañcatpuṭa* (KSS/BI), *caccatpuṭa* (GOS), and *cañcūpuṭa* (KM); and *cācapuṭa* (GOS), *cāpapuṭa* (BI), and *cāyapuṭa/cañcupuṭa* (KM). We will conveniently use only the most commonly used forms: *cañcatpuṭa* or *caccatpuṭa*, and *cācapuṭa* or *cāpapuṭa*.

[178] Or, 'this *miśra tāla*'.

determined by a given number of *kalā-s*. This interpretation is perfectly in line with the following discussions on measures or standard time-patterns (KSS 31, 7-58ab).[179]

According to our interpretation of v. 7ab *kalā* is identified with *tāla*. However, according to Abhinavagupata, it is not *kalā* but *laya* that is identified there with *tāla*. Apart from the theoretical implications of equating all three notions, the textual circumstance leading to this interesting identifications merits closer examination. As indicated above, (see n. 167) the order of some verses is different in Abhinavagupta's version of the text. Since the line under discussion (i.e KSS v. 7ab) occurs immediately after v. 5ab, that is after the ascertainment that the measure of the medium *laya* ('rest') should be accepted as the standard *kalā*, Abhinavagupta considered the (medium) *laya* as the grammatical subject of the following line, where it indeed appeared to be elliptic (see above, n. 168). This specific order of exposition obviously led Abhinavagupta to equate *laya* with *tāla*.[180] After observing that '*kalā* itself has no reality of its own outside [that of] *laya*,' he concludes that the author now describes *laya* (v. 4 *tataḥ kalākala*, etc.), because later on (cf. KSS 31, 530cd ff.) he will explain that '*laya* [in fact] is identical with *tāla*.'[181] However, the latter assertion is highly debatable because the NŚ itself never makes this equation, at least not directly in unmistakable terms.

It is true that even though *kalā*, *laya* and *tāla* indeed represent very different aspects of time measurement in music, yet they are described as cognate notions of time. Nevertheless, the latter aspect does not justify identifying any one of them with one another, especially not *laya* and *tāla*. One may therefore discard Abhinavagupta's attempt to take *laya* as the subject implied in v. 7ab, assuming he was misguided by his version of the text. The impact of his equations is certainly palpable in later tradition as has been discussed above, in §9.3.

2.2.2 Introduction of structural expansion

Used to a more logical order of presentation, we now expect the author to discuss the arrangement of gestures and beats in the expanded states of the main *tāla-s*. Since five standard *tāla-s*, their syllabic form (*yathākṣara*) and accompanying patterns of beats have duly been described in the preceding verses, it would now be appropriate to expect a treatment of the beat formation in their expanded forms, viz. *dvikala*, the so-called 'twofold state' and *catuṣkala* the 'fourfold state'. They have been mentioned (v. 9cd), but without explanation.

It should, however, be emphasised that the NŚ does deal with the subject, though not in one place or as systematically as in later sources. The following five passages - scattered over the first part of the *tāla* chapter - may be identified as dealing with the theory of *tāla* expansion:[182]

---

[179] These considerations clearly indicate that *tāla* and *pramāṇa* in v. 7ab do not refer to the abstract notion of *tāla* as an organizing principle, but rather to that of a standard measure of time. This conclusion thus rules out the possibility that v. 7a relates (say as a summary) to what is said in the preceding section, and in particular in the opening verse.

[180] Cf. A.Bhā. p. 154, l. 6 *kalānāṃ yaḥ kālo layatvasaṃjñitas, tasya yat pramāṇaṃ paricchedas tenopalakṣitas tālaḥ.*

[181] A.Bhā. p. 153 ll. 16 f. [...] *kalāyā eva ca layaṃ vinā na svarūpalābho laya eva hi tāla ity agre vakṣyāmīty abhiprāyeṇāha tataḥ kalākāleti.*

[182] Even though many other passages may still be identified in other parts of the chapter (cf. vv. 65cd-7, 70, 72ab, etc.), including the section dealing with a parallel system reckoning with *yathākṣara*, *dvisaṃkhyāta* and *trisaṃkhyāta* (vv. 208-24), they are mainly repetitions or applications of what has already been stated in the first part.

(I) After introducing the two main *tāla* types, it is briefly stated that the *dvikala* and *catuṣkala* states of *tāla* expansion are derived from them (v. 9), however, without any further clarification;
(II) In the context of the variations of the five standard *tāla-s*, the topic of *tāla* expansion is again taken up. Since the derivation of these variations falls within the sphere of structural expansion, the author includes a brief introduction to the numerical and metrical principles of the latter (vv. 25-29ab);
(III) The section on cheironomy includes important directions about the arrangement of silent gestures in the *dvikala* and *catuṣkala* states of *tāla* expansion (vv. 35-37ab);
(IV) Then follows the first systematic discussion on the three states of expansion in which the basic principles are reinforced (vv. 40cd-43);
(V) At the end of the first part of the *tāla* chapter, occurs a substantial section dealing with the *dvikala* states of the three main *tāla-s* (vv. 47-56), followed by a relatively short section containing directions for deriving the *catuṣkala* from the *dvikala* (vv. 57; KM 49 f.).

If an original presentation ever existed in a coherent and systematic form, it survives only in fragments scattered over the entire first part of the *tāla* chapter. Their contextual isolation indicates that they are not in their proper place at their present locations. This situation has unnecessarily obscured the text in several places. Nevertheless, a relatively full reconstruction of *tāla* expansion has been attempted below, in § 6.5.

2.3 Three standard beat patterns

N. B.

The following sections up to v. 29ab deal with a number of subjects, which presuppose a full acquaintance with the system of *tāla* cheironomy, *i.e.* the practice of gestures accompanying the metrical patterns. Since a full understanding of these matters is seriously impeded by the reversed order of exposition, the interested reader is advised first to run through the section on *tāla* cheironomy (vv. 29cd-40ab). The order suggested here, is not new as it has been followed by other writers on *tāla* who, in fact, often place the exposition of the *tāla* cheironomy more or less at the beginning of their chapter on *tāla* (cf. Datt. vv. 113cd-121 and SR 5, 4cd-16ab). Although our text is reckoned to be included in the category of scientific and systematic treatises (*śāstra*), it is not uncommon for the presentation of certain matters to be not as systematic as one would normally expect. Well-known examples are the numerous technical references to music, dance and songs (e.g. *gītaka-s*, *dhruvā-s*, etc.) in the fourth and fifth chapter, whereas their actual treatment takes place almost at the end of the treatise (*i.e.* chs. 28-33). On the other hand, the disordered condition of some individual chapters may sometimes be explained as caused by defects in the transmission of the text. In this way the delayed exposition of *tāla* cheironomy in our chapter, is therefore best explained as a case of transposition that must have occurred at a relatively early stage, since all witnesses testify to that effect.

These sections, that reflect the essentials of *tāla* cheironomy, deal with the following matters: (1) the introduction and application of three different beat-patterns in the two principle *tāla-s* (vv. 14cd-18); (2) the recognition of three other varieties of the *tryaśra* type of *tāla* (*i.e. pañcapāṇi* 'having five hands' vv. 19-22ab, *Sampakveṣṭaka*[183] 'having thoroughly baked bricks' vv. 22cd-23 and *udghaṭṭa* 'having a [special] opening' v. 24); and (3) an introduction to the principles of forming the three expanded states (vv. 25-29ab).

---

[183] According to the stem *°iṣṭaka* 'brick', the grammatically correct form of this mnemonic should be *sampakveṣṭaka*. However, as attested by most of the musicological sources, the form with a

Aside from the syllabic structure of these *tāla-s*, considerable attention is paid to the gestures accompanying the time-syllables. A full treatment of these gestures follows when I discuss the *tāla* cheironomy in its proper place. For the sake of convenience the following table should suffice to give the gist of what is described further on by the NŚ (vv. 29cd-40ab), containing brief descriptions of the silent and audible gestures, as well as their abbreviations (by the first syllables of their names) as used by Abhinavagupta and others.

Table 11 The silent and audible *tāla* gestures according to the NŚ.

'Silent' gestures	Abbreviations[184]	Action of the hand and fingers
āvāpa ('throwing')	*ā*	Contraction of the fingers; palm pointing upwards
niṣkrāma ('departing')	*ni*	Spreading of the fingers; palm pointing downwards
vikṣepa ('waving')	*vi*	Waving the hand to the right; [palm pointing downwards]
praveśa ('entering')	*pra*	Returning the hand to the left; palm pointing downwards
Audible' gestures		Mode of beating
śamyā ('peg', 'cymbal')	*śa*	Slapping right hand [on right thigh[185]]
tāla ('beat')	*tā*	Slapping left hand [on left thigh]
sannipāta ('striking together, or simultaneously')	*saṃ*	Striking both hands together, [or at the same time on the respective thighs]
dhruva 'constant'		[Mentioned, but not properly described by Bharata!]

Although nothing definite can be said about the origin of these gestures (see ch. 4), they nevertheless, appear to derive from common movements as attested to by the agreement between the literal and technical meaning of most of the terms. *Āvāpa* resembles the contraction of the fingers when something is tossed into the air. The three other silent

---

lengthened penultimate vowel (*a* > *ā*) is often preferred, obviously to allow all the five constituent syllables (i.e. *sa-mpa-kve-ṣṭā-kaḥ*) to be long (*guru*), so as to meet to some extend the corresponding structure of this *tāla*, of which the first and last syllables are further accepted as *pluta-s* (ŚSSSŚ).

[184] Although we adopt these abbreviations, we shall sometimes have to shorten two of them (i.e. *pra* and *saṃ*) to *pr* and *sa* respectively because of the scarcity of space in some tables displaying large structures.

Putting aside the Sanskrit terminology and related abbreviations, Widdess (1981, 498 f.) developed a different set of abbreviations for analytical purposes. In that notational system s_1, s_2, s_3, s_4 refer to the silent gestures (*āvāpa*, *niṣkrāma*, *vikṣepa* and *praveśa* respectively); 'R' to the right-hand clap (*śamyā*); 'L' to the left-hand clap (*tāla*); and 'X' to the clap of both hands (*sannipāta*). It has to be admitted that the abbreviations for the audible gestures appropriately indicate the essence of the beats, but on the other hand, those for the silent gestures, tend to underestimate their complex nature by distinguishing them only by their serial number.

[185] The slapping of the left or right hand on the respective thigh seems to be the most logical guess, not only because of the natural physical position and movement, but also because a slap with the left hand on the right, and *vice versa*, would technically be equal to a *sannipāta* stroke. Discussion follows.

gestures need no further explanation. On the meanings of *śamyā* and *tāla*, see n. 243 below. *Sannipāta* is discussed in the body of § 2.6.2 and *dhruva* in 2.6.3.

Notably, the names of the first three silent gestures show some resemblance with those of certain *dhruvā* songs. Since these songs were sung during certain situations of a play, their names reflect the 'position' (*sthāna*) of the actors on stage. Depending on occasions such as 'entrance' (*praveśa*), 'giving up' (*ākṣepa*), 'departure' (*niṣkrāma*), 'calming' (*prasādana*) and 'transition' (*antara*), five categories of *dhruvā-s* were distinguished.[186] During the so-called *prāveśikī dhruvā*, persons entered the stage; conversely, the *naiṣkrāmikī dhruvā* was sung during the exit of the actors at the end of acts; the *ākṣepikī dhruvā* was sung when the rules of tempo were disregarded intentionally; the *prāsādikī dhruvā* was applied to calm the audience after a distraction; and the *antarā dhruvā* when mistakes were being covered (cf. BI 32, 364-370). Only the first three names are interesting, though their movement does not fully match with that of the three gestures. In *tāla* cheironomy *āvāpa* and *praveśa* could be interpreted as gestures derived from those used for inviting the actors to enter the stage (*praveśa*) and *niṣkrāma* and *vikṣepa* from those summoning them to leave the stage (*niṣkrāma*).

2.3.1 Sannipātādi, Śamyādi and Tālādi

KSS 31, 14cd-8; KM 31, 12-5; GOS 31, 11-5; BI 31, 14cd-17; 18-9[187]

The present section introduces three different beat-patterns, which accompany the time-syllables of *cañcatpuṭa tāla* (vv. KM14cd; KSS 14cd-15). The first pattern begins with the *sannipāta* beat (*sannipātādi*), the second with *śamyā* beat (*śamyādi*) and the third with the *tāla* beat (*tālādi*). Then the musical domain of their application is indicated (v. 16-17ab). However, this passage is problematic and probably a late interpolation (see below, n. 185). All three combinations are then also presented in *cācapuṭa*, the other principal *tāla* (vv. 17cd-18ab). Finally it is stated paradoxically that the *sannipātādi* pattern is 'strong', but also the other two (v. 18cd)!

For a full discussion of the entire system of *tāla* cheironomy, see below, chapter 4.

KM 12ab	sannipātas tataḥ śamyā tālaḥ śamyā tathaiva ca	Om. in KSS; K_{all}/B_2 transpose after v. 15; *śamyā tathaiva ca* GOS {*śamyās* K_{all}} *śamyām athāpi vā* KM {*śamyā* BI *śamyāḥ* KSS_2}
KSS 14cd	[188]*śamyātālau dvir abhyastau, tālaśamye tathāpi ca*	Om. in KM/K_{all}/B_2; *tālaḥ śamyā* KSS/GOS *tālaśamyām* KM *tālaśamye* BI; *tathāpi va* KSS *tatheva ca* BI (misprint for *tathaiva ca*, cf. KSS_2)
15	*sannipātādiko jñeyaḥ śamyādiś ca tathāparaḥ*	°*ādikāle yaḥ* KSS °*ādiko jñeyaḥ* KM/BI {*jñeyas* K_{all}} [KM_2 (p. 476 n. 10) wrongly cites KSS °*ādikāneyaḥ*] °*ādike jñeyaḥ* GOS 31, 12c; *tathā samyādir eva ca* K_{all} *śamyādiś ca tathāparaḥ* al. omn.

---

[186] Cf. Ghosh Transl. II, p 143 f.

[187] Cf. translations of Ghosh 1961, 55 f. and E. te Nijenhuis 1970, 341 f.

[188] GOS inserts *evam ekakalaṃ(laḥ) śuddhau(ddho) yojyaś caccatpuṭo budhaiḥ* (31, 11cd). See further discussion on KSS 31, 25ab.

	[89]*tālādiś ca, tribhir bhedaiḥ yugmaś cañcatpuṭo bhavet*	*tathā tālādibhir bhāvair* KSS *tālādiś ca, tribhir bhedaiḥ* KM/GOS/BI *tālādibhiś ca tribhedair* K_{all}; *yugmaś cañcatpuṭo bhavet* KSS {*punaś* KM/BI *yutaś* GOS} *yuktaś caccatpuṭaḥ smṛtaḥ* K_{all}
16	[190]*sannipātādiko nāṭye caturaśro bhaved ayam* *śamyādikas tu vijñeyas tajjñair āsāritādiṣu*	Om. in KM/GOS/K_{all}/B_2; *°ādike nāṭye* KSS {*°ādiko* BI}; *caturasre* KSS_3 (silently) *tajñair* GOS (misprint); *āsāditeṣu ca* KSS (misprint) *āsāritādiṣu* KM/GOS/BI (B_2 v. 16ab corrupt); cf *sa eva sannipātas tu bhavaty āsāritādiṣu* K_{all}
17	*tālādikas tathā prokto vidvadbhiḥ pāṇikādiṣu* *cañcatpuṭasya ye bhedāḥ sannipātādayas trayaḥ*	Om. in K_{all}/B_2 Om. in K_{all}; *bhedāḥ* KSS *bhāvāḥ* KM/GOS; *trayaḥ* KSS *tu ye* KM/GOS
18	*ta eva bhedā vijñeyā budhaiś cācapuṭe pṛthak*	Om. in K_{all}; 'Ma' Vipulā; *cāpapuṭe pṛthak* KSS {*cācapuṭe* GOS} *cañcūpuṭasya ca* KM
	[191]*sannipātādikas tasya balavān itare 'pi vā*[192]	Om. in K_{all}; *°ādikas tasya* KSS *°ādikaḥ svasya* KM *°ādikas tv asya* GOS/BI; *itare 'pi ca* KSS *itaro 'pi vā* M *netaras tathā* KM {*itarau* GOS}

---

[189] The KSS reading is not satisfactory because, from a stylistic point of view, *tathā* involves a repetition (see *tathāparaḥ* in the preceding line). Moreover, *bhāvair* also is doubtful because, there instead, the text repeatedly uses *bheda°* to refer to the patterns under discussion (s.v., vv. 17-8). Finally, the mentioning of the number three (i.e. *tribhir*) is justified because of the explicit references to three patterns of beat.

[190] Both lines are contracted in the K Mss. to one line (i.e. *sa eva sannipātas tu bhavaty āsāritādiṣu*). I tend to consider v. 16ab as a very late interpolation because it not only occurs in the Mss. of the KSS version alone, but is not taken notice of by any of the post-Bharata authors on music, including Abhinavagupta; and (3) its content is not consistent with the musical theory.

[191] We have a break in the text here. For a full discussion of the interpretative problems involved, see vv. 7-14ab above, as well as the following note. Immediately after this line, the KM version includes three more lines which appear to be dislocated (vv. 16-17ab *ṣaṭkalo 'ṣṭakalaś caiva tālo hy asmāt pravartate | dviprakāraḥ punaś cāyaṃ niḥśabdaḥ śabdavāṃs tathā | anayor miśrabhāvaṃ tu miśras tālaḥ prakīrtitaḥ*). Following KSS, I do not read them here, but preferably at their appropriate locations.

The first line, which appears to be omitted by KSS, evidently relates to the topic of the *dvikala* state of expansion, because the six and eight *kalā-s* mentioned here belong to the second state of *cañcatpuṭa* and *cācapuṭa* respectively, and, as a matter of fact, are derived by doubling the respective measure of their *ekakala* grade. On the other hand, the latter two lines are separated in KSS and occur in different places and different contexts (i.e. v. 29cd and v. 12cd). The second line relates to the categories of *tāla* gestures, and the third to those of *tāla* types.

[192] The KSS and GOS readings involve a slight stylistic flaw. Where a contrast is expected, we find two statements of equal force: one stating that 'the *sannipātādi* [variety] is strong', and the other that 'the two other varieties are strong as well'. In this respect the KM, representing the *lectio simplicior*, avoids the problem by saying that 'the other (two) are not so' (*na itaras tathā*). Nevertheless, the *lectio difficilior* (with substitution of *vā* for *ca* on the force of Ms. M) is preferable because all three combinations (*sannipātādi*, *śamyādi* and *tālādi*) occur with almost equal frequency, though it has to be admitted that *sannipātādi* is noticeable due to its frequent occurrence in larger structures such as the *gītaka-s*, etc., where *pañcapāṇi tāla* is often used as a structural component (*aṅga*), which, as a rule, is always accompanied by the *sannipātādi* combination of beats.

<KM14cd> [There are three standard combinations of beats:] (1) *sannipāta-śamyā-tāla-śamyā*; (2) <KSS14cd> *śamyā-tāla* repeated twice and (3) *tāla-śamyā* likewise also (repeated twice); <15> [thus] should [the combinations] beginning with *sannipāta*, *śamyā* and *tāla* be known. The 'even' *cañcatpuṭa* (*tāla*) should be formed with (these) three variations.

<16> In theatre [and music] this 'four-cornered' [= 'even' *cañcatpuṭa*][193] pattern should [usually] have the (beat) combination that begins with *sannipāta*, but its experts (*tajjñair*)[194] should know that the combination beginning with *śamyā* [is applied] in [traditional vocal forms such as] *āsārita*, etc.[195] <17> Likewise the wise have prescribed the combination beginning with *tāla* in [popular vocal forms such as] *pāṇikā*, etc.[196]

The same three variations of *cañcatpuṭa*, viz. *sannipātādi*, etc., <18> should separately be recognised by the wise with regard to *cācapuṭa* (*tāla*). (Among) its [three variations] *sannipātādi* is strong, and optionally also the other two.

The application of the audible gestures evidently took place in three fixed combinations beginning with *sannipāta*, *śamyā* or *tāla* respectively:

1	**Sannipātādi**	*saṃ*	*śa*	*tā*	*śa*
2	**Śamyādi**	*śa*	*tā*	*śa*	*tā*
3	**Tālādi**	*tā*	*śa*	*tā*	*śa*

A characteristic feature of each combination is the initial beat. Each series begins with one of the three beats recognised by the NŚ, followed by an alternation of *śamyā* and *tāla* or *vice versa*. See further Chapter 4 for their various applications (§ 4.4), their implication on polyrhythm (§ 4.7), etc.

Table 12 The three beat-combinations as applied in the two principle *tāla-s*.

	Mnemonic	*cañ*	*cat*	*pu*	*ṭa*	*cā*	*ca*	*pu*	*ṭa*
	Syllabic instant	S	S	I	Ś	S	I	I	S
1	**Sannipātādi**	*saṃ*	*śa*	*tā*	*śa*	*saṃ*	*śa*	*tā*	*śa*
2	**Śamyādi**	*śa*	*tā*	*śa*	*tā*	*śa*	*tā*	*śa*	*tā*
3	**Tālādi**	*tā*	*śa*	*tā*	*śa*	*tā*	*śa*	*tā*	*śa*

The latter half of this section (*i.e.* vv. 16 ff.) specifies where these combinations of beats were to be applied in the two principle *tāla-s*, namely *sannipātādi* in (the music of) *nāṭya*, *śamyādi* in *āsārita*, etc. and *tālādi* in *pāṇikā*, etc.[197] Although the literal meaning of these directions is clear, the text remains elusive as to what is actually meant, also in the rest of the chapter.

---

[193] The term *caturaśra* refers *inter alia* to geometrical figures such as, for example, the 'quadrangular' (or 'even') type of playhouse/stage (*maṇḍapa*) and theatrical preliminaries (*pūrvaraṅga*). However, to the best of my knowledge, it never qualifies a particular type of drama (*nāṭya*). Conversely it is also most unlikely that the word *nāṭya* in our passage refers to a particular type of *nāṭya-maṇḍapa* or to *pūrvaraṅga*. In this respect, the emendation adopted by the KSS$_2$ edn. remains baseless.

Here the word *caturaśra* refers to the 'even' (*yugma*) pattern mentioned in the preceding line, viz. *cañcatpuṭa* (v. 15cd). This interpretation is corroborated by the deictic *ayam*.

[194] For example, the experts of music, drama or dance.

[195] The *āsāritā-s* are four in number and are treated first in a row of musical compositions such as the *vardhamāna*, *gītaka-s*, etc., further on in the *tāla* chapter. See above Tables 3-5.

[196] The *āsāritā-s* and *pāṇikā*, along with five other 'miscellaneous' kinds of songs, constitute a group of seven which is different from that of the seven *gītaka-s*. Also see preceding note.

The statement that '*sannipātādi* occurs in *nāṭya*', is especially problematic. The only plausible way of making sense of this statement is by interpreting the word *nāṭya* as alluding to the music in it as referring to its musical components, viz. the *pūrvaraṅga-s*, the theatrical preliminaries of a play. The *pūrvaraṅga-s*, characterised by an abundance of musical activity, were indeed categorized in terms of *caturaśra*, *tryaśra* and *miśra*, depending on the respective structure of the songs or compositions (*dhruvā*) used in them.[198] These songs were certainly related to certain combinations of beats! However, a close examination of the *pūrvaraṅga* chapter (NŚ V) shows that instead of the *sannipātādi* combination (*i.e. saṃ*, *śa*, *tā*, *śa*), in fact, only the *śamyādi* is used, but with the notable difference that it does not end with *tāla* as prescribed by the text, but with *sannipāta* (*i.e. śa*, *tā*, *śa*, *saṃ*).[199] This substitution is apparently due to a general rule that prescribes a *sannipāta* at the end of a 'stanza' (*vastu*).[200] However, there is another explanation. Note that the beats here, are actually the same as in *sannipātādi*; only the *sannipāta* beat has shifted from an initial to a final position. This shifting of a prominent beat is most interesting from a musical as well a musicological point of view; we shall have an opportunity to look closer into the phenomenon when examining the *āsārita* songs (see below, vv. 59-267ab).

Whatever be the case, it is clear from the prescriptions of *śamyādi* in the *āsārita* songs, and of *tālādi* in the *pāṇikā* songs, that *sannipātādi* - the most prominent beat-combination, was also prescribed in a musical context. The prescription of *śamyādi* in the *āsārita-s* is consistent with the text (see KSS 31, 61cd ff.), with the same difference as mentioned above, namely that it does not end with *tāla*, but with *sannipāta* (*i.e. śa*, *tā*, *śa*, *saṃ*). The prescription of *tālādi* in the *pāṇikā* songs is not so easy to verify, at least not on the basis of the NŚ, simply because the latter is silent about this category of songs, except for some remarks on the number of structural components employed in it (cf. KSS 31, 421-4). However, details in the Datt. (v. 233), SR (5, 219ab) and, in particular, the Bharatabhāṣya (foll. 47v-62r) attest to the fact that the *tālādi* sequence of beats was indeed used profusely in the *pāṇikā* songs.[201]

Bharata prescribes *sannipātādi*, etc., to be applicable to both principal *tāla-s*, but this parallel application was not fully accepted by tradition. Dattila, for example, sanctions *sannipātādi* alone as the common combination of beats applicable to both *tāla-s*, and restricts the remaining two optional variations to *cañcatpuṭa* only.[202] As reported by Abhinavagupta this view was fully supported by ancient masters such as Viśākhila, etc.[203] Śārṅgadeva is not clear on this point, but by mentioning that Bharata accepted *śamyādi* and *tālādi* as variations also for *cācapuṭa*, he appears to dissociate himself from that view.[204] It is perhaps against the background of this dissension within the tradition that we may try to understand v. 19cd. Bharata first makes it clear that in fact, all three combinations applied to *cañcatpuṭa* were also applicable to *cācapuṭa* (v. 19ab). Yet he appears to indicate which one of them predominates in *cācapuṭa tāla*. The statement that '*sannipātādi* is strong', in the first part of this specification, is clear enough to assume that this series was predominant, whereas the other two could obtain that position only 'optionally'. Such an interpretation is supported by the M Ms., whereas the KM edn. straightforwardly rejects the shared predominance of the last two series. When this interpretation is accepted, the readings of the KSS and GOS edns. have to be dismissed as corrupt.

---

[197] Since the GOS version omits the line that prescribes *sannipātādi* in *nāṭya*, Abhinavagupta is silent on the matter. Likewise Śārṅgadeva and the commentators (on the SR) corroborate only the latter two options and the application of their respective vocal forms (SR 5, 28). Or does this silence indicate that the popularity of *sannipātādi* in *nāṭya* was considered to be so obvious that tradition did not consider it necessary to mention it, but only point out the limited scope of the other two combinations?

[198] An exception is the *citra pūrvaraṅga* which was further characterised by the element of dance.

[199] See KSS 5, 64cd-5ab.

[200] Cf. GOS 31, 43cd *...sannipāto 'nte nityam...*; 50c *sannipātas tathānte ca*; 66ab *sannipātair nipātaiś ca teṣāṃ vastu prakīrtitam*; 68cd *ante ca sannipātaḥ syāt sarveṣāṃ apy ayaṃ vidhiḥ*; etc.

[201] We have to be careful because the Datt. is lacunal at this point. Of the four components of *pāṇikā* (i.e. *mukha*, *pratimukha*, *śarīra* and *śīrṣaka*) the first two were formed with stuctural units called *mātrā*, which appear to have had the same beat-structure as in the *rovindaka gītaka* (cf. Datt. v. 233ab *mātrā rovindakasya....laḥ pṛthak pṛthak*, SR 5, 219ab *ādyā rovindakagatā mātraikā pāṇikā mukham*). See further Ramanathan pp. 319-23; Widdess 1981, 498 ff.; Lath 1988, 199; Chaudhary 1997, 205-7.

2.4 Formation of other *tryaśra* measures

KSS 31, 19-24; KM 31, 17cd-23ab; GOS 31, 17-22; BI 31, 20-5[205]

This section introduces three other varieties of the uneven type of meter (*tryaśra tāla*). The first to be described is *ṣaṭpitāputraka*, 'having sons from six fathers' (vv. 19-22ab) - the most commonly used variation of triple time - then the less common *sampakveṣṭaka*, 'having thoroughly baked bricks' (22cd-3) and *udghaṭṭa*, 'having a [special] opening' (v. 24). I shall try to show that the phrase *śamyātālapraveśena* in v. 19ab is a formula for deriving *ṣaṭpitāputraka* - a formula that has been perfected by Dattila. Finally, I shall argue that *udghaṭṭa* could not have been a real *tāla*, but only a special syncopated opening phrase (§ 6.3.5). For a detailed discussion on *tāla* types, see below, section 6.4.

19	*śamyātālapraveśena tryaśro 'nyo 'pi vidhīyate*	Om. in K_{all}/B_2; *tryaśro 'nyo 'pi* KSS/GOS *anyos tepi* (?) KM
	[206]*ṣaṭpitāputrakakṛtaḥ pañcapāṇir udāhṛtaḥ*	Om. in K_{all}/B_2; 'Na' Vipulā
20	*ādyaṃ plutaṃ dvitīyaṃ tu laghu yatrākṣaraṃ bhavet*	Om. in K_{all}/B_2; *ādyaplutaṃ* M; *tu* KSS *ca* KM/GOS
	tṛtīyaṃ ca caturthaṃ ca guruṇī, pañcamaṃ laghu	Om. in K_{all}/B_2; *guruṇī* KSS/GOS *guruṇi* KM
21ab	*plutāntaḥ ṣaṭpitāputro gurulāghavasaṃyutaḥ*	

---

[202] Datt. 126-7ab:
sannipātaś ca śamyā ca tālaḥ śamyā tathaiva ca I
eṣa pātavidhir jñeyo yugme cāyugma eva ca II
śamyātā [lau ca] yugme dvis tālaḥ śamyam (sic.) *athāpi vā* I

[203] A.Bhā. on NŚ 31, 15, p. 157. ll. 10-3 *evaṃ bhedatrayasambhavena cācapuṭasyetareṇa sāmyam utpādya viśeṣaṃ darśayati* I *sannipātādivikṣepair dvikalacatuṣkalasiddhiḥ* I *tathā ''cāryaviśākhilādibhiḥ sa evāsya bhedo darśitaḥ* I *eka ojaḥ prathamavāro dvividhakṛto yugmeti yad uktaṃ cañcatpuṭacācapuṭayor bhedāntaraprasūtitvaṃ darśayati*. See further Lath 1988, 139.

[204] SR 5, 29 ab *anyadbhedadvayaṃ cācapuṭe 'py asti muner matam* I *śa-tā-śa-tā; tā-śa-tā-śa ity ekakalacācapuṭakalāvidhiḥ*. Note that the inclusive particle *api* here presupposes that he too accepted *sannipātādi* as a common variation as was done by Bharata and others. Cf. Ghosh Transl. II, p. 56 n. 1 on v. 18.

[205] Cf. translations of Ghosh 1961, 56 and E. te Nijenhuis 1970, 342.

[206] A similar line occurred earlier in v. 13ab, see above, n. 174.

KM	pañcapāṇiḥ sa vijñeyaḥ ṣaṭpātas tu ṣaḍakṣaraḥ	Om. in KSS/M/K_{all}/B_2; *ṣaṭpātas* KM *ṣaṭpātā(ta)s* GOS
20ab KSS 21cd	*asyādau saṃnipātaḥ syāt, tālaśamye tataḥ param*	Om. in K_{all}/B_2; *asyādau saṃnipātaḥ syāt, tālaśamyetaraḥ param* KSS {*paraḥ* M} *sannipātas tatas tālaḥ śamyā tālas tathaiva ca* KM/BI {*tālaśamye tataḥ* GOS Ms. ('Ḍa')}
22	*tālaśamye ca tālaś ca ṣaṭ pātāś ca prakīrtitāḥ*	Om. in K_{all}/B_2; *tālaśamye ca tālaś ca ṣaṭ pātāś ca prakīrtitāḥ* KSS *śamyā caiva hi tālaś ca ṣaṭpātas tasya kīrtitaḥ* KM/BI v. 21ab {*ṣaṭ pātās tasya kīrtitāḥ* GOS}
	tālādis tryaśrabhedo 'nyaḥ saṃpakveṣṭākasaṃjñitaḥ	*°bhede 'nyaḥ* KSS {*°bhedo* KM21cd /M/BI} *°bhedo ['yaṃ]* K_4 {*yo* $K_{1-3,5}$/'Ra' (GOS Ms.)} K_6 unr.; *saṃparkeṣṭāka°* KSS *saṃpatkeṣṭaka°* KM *saṃpakveṣṭaka°* GOS *jñeyaḥ pakveṣṭako budhaiḥ* $K_{2-3,4,6}$/'Ra' (GOS Ms.) {*gaya* K_1 *pakeṣṭako* K_5}
23	*gurusarvākṣaro yas tu plutādyantaḥ prakīrtitaḥ*	*gurusarvākṣaro yas tu plutād antaḥ prakīrtitaḥ* KSS *gurupañcākṣarādyantyaplutamātrāsamanvitaḥ* KM/BI {*°samanvi-tā(taḥ)* GOS} *gurupañcākṣarāṇy eva plutamātrā-dvyānvitā* K_{all}/B_2/'Ra' (GOS Ms.)
	[207]*sannipātas tataḥ śamyā tāla śamyaikatālakaḥ*	Om. in K_{all}/KM/GOS; *śamyaikatālakaḥ* KSS *śamye ca tālakaḥ* M
24	*tryaśraṃ sarvagurum kṛtvā niṣkrāmaṃ tatra yojayet*	Om. in K_{all}/B_2; *niṣkāmam* KM/GOS/M; *tv atra* KM/GOS
	śamyādvayaṃ tatas tv eṣa udghaṭṭaḥ kathito budhaiḥ	Om. in K_{all}/B_2; *tv eṣa udghaṭṭaḥ* KSS/GOS *teṣu udbaddhaḥ* KM/GOS.

<19> With the employment of *śamyā* and *tāla*[208] [in addition to the four beats in *cācapuṭa*] even another (variety of) *tryaśra* is effected; it is called *pañcapāṇi* (and) formed according to [the mnemonic] *ṣaṭpitāputraka*. <20> There the first syllable should be a *pluta*,[209] the second a *laghu*,

---

[207] Since the content of this line is in conflict with that of v. 22c as well as with later tradition, it possibly represents an optional combination of beats, which is most likely, or an interpolation. Following later tradition, Ghosh suggests reading *ādau tālas tataḥ śamyā* [Transl. II, p. 56, n. (24) 3]. See further, discussion in §. 6.3 below.

[208] The compound *śamyātālapraveśena* has been discussed below, the gist of which may be presented here. The last member is not a technical term as would be expected in the given context, but rather a periphrastic form of the instrumental case, expressing more precisely in which way the latter operates (cf. Speyer 1988, 49 and 141). Notably, this particular usage of *°praveśena* is not recorded in Sanskrit dictionaries nor mentioned among similar words such as *yogena*, *mārgeṇa*, *dvāreṇa*, *mukhena* and *kāraṇena* (see Speyer, *ibid.*). However, there is reason to include *praveśena* in Speyer's list because elsewhere in the text where the same compound is used (*dviśamyātālayogena* KSS 31, 383c), it seems to be substituted by *°yogena*. Since these two words are used interchangeably they may accordingly be treated as synonyms. See further discussion.

[209] Although the initial and final syllables of *ṣaṭpitāputraka* are actually *guru*, they are assumed to be *pluta-s* by convention, as is the case with the final *guru* of *cañcatpuṭa*. This renders the proportional ratio of *ṣaṭpitāputraka* as 3 : 1 : 2 : 2 : 1 : 3 (ŚISSIŚ). The initial and final syllables of *sampakveṣṭaka* are also considered as *pluta-s*.

the third and fourth a *guru*, the fifth a *laghu*, <21ab> [and finally] the *ṣaṭpitāputraka*, which is formed[210] by the length and the shortness [of its constituent syllables], ends on a *pluta*. <KM 20ab> This is *pañcapāṇi* [lit. 'having *five* hands'], but should be known to consist of six beats and six syllables. <KSS 21cd> On its first [syllable] should occur a *sannipāta* (beat), <22> then a *tāla*, a *śamyā*, a *tāla*, a *śamyā* and a *tāla* (on the five following syllables); (these) six beats have been prescribed.

Another variety of the *tryaśra* [type of *tāla*] - called *saṃpakveṣṭaka*,[211] has the *tālādi* [combination of beats]. <23> It consists of (five) syllables that are all *guru*; of which the initial and final ones are said to be *pluta-s*. [The optional combination of beats is] a *sannipāta*, a *śamyā*, a *tāla*, a *śamyā* and a *tāla*.

<24> After making a three-cornered measure (*tryaśra*) with all (three syllables) long, one should [first] apply a *niṣkrāma* (silent gesture) in it and then two *śamyā* (beats); the experts call this (measure) *udghaṭṭa*[212] (*tāla*).

Pañcapāṇi, 'having five hands', the most important variety of *tryaśra tāla*, is described here (almost) analogously to the two preceding *tāla-s*, namely (1) by way of a mnemonic, *i.e.* *ṣaṭpitāputraka* that indicates its syllabic instants and structure, and (2) by means of a set of accompanying beats. Although the exposition in general is lucid, there is one disturbing point in the way *pañcapāṇi* is introduced (19ab).[213] The mentioning of *pañcapāṇi* as another variety of *tryaśra tāla* is clear, but the phrase *śamyātālapraveśena* conditioning this statement, is less transparent and liable to at least two different interpretations. Here it may be analysed either as a copulative (*dvandva*) or as a determinative compound (*tatpuruṣa*).

In the first case the members (*i.e. śamyā*, *tāla* and *praveśa*) can be interpreted as technical terms referring to well-defined gestures from *tāla* cheironomy (see below, vv. 29cd-40ab), of which the first two represent audible beats (v. 31), whereas the final component (*°praveśa*) refers to a particular silent gesture (v. 30cd). Although this interpretation is generally followed,[214] it does not help in clarifying the text, but only further complicates matters. If, on the other hand, *śamyā*, *tāla* and *praveśa* are assumed to constitute 'another' combination of gestures than the three already accepted by the text, *i.e. sannipātādi*, *śamyādi* and *tālādi* (see above, vv. 14cd-18), this cannot be proved because neither the NŚ nor any later source corroborate the independent existence or application of this particular sequence. The only occasion where such a sequence normally occurs, is within the *dvikala* structure of *ṣaṭpitāputraka* (*ni-pra-tā-śa-ni-tā-ni-śa-tā-pra-ni-saṃ*). But as it is not possible to explain why this sequence requires special mention in our passage, it is better to dismiss the idea altogether that they represent a distinct sequence of three gestures.

The occurrence of a silent gesture *praveśa* in the beat-structure of *ṣaṭpitāputraka* could have been acceptable (just like that of *niṣkrāma* in *udghaṭṭa tāla*, v. 24), if the text itself did not only prescribe audible beats, namely *sannipāta-tāla-śamyā-tāla-śamyā-tāla* (vv. 21cd-22ab). Moreover, the occurrence of a silent gesture at the end of the *śa-tā-pra* sequence is most unusual because silent gestures are, as a rule, prefixed to audible gestures and never suffixed to them. The series prescribed for the *udghaṭṭa tāla* is a case in point.

---

[210] *Saṃyuta* lit. 'put together', 'consisting of', etc. Compare the parallelism with *abhiniṣpanna* in v. 13cd.

[211] This *tāla* is spelled differently, cf. *saṃparkeṣṭāka* (BI/KSS) *saṃpakveṣṭāka* (GOS/Saṃgītaratnākara), *saṃpatkeṣṭaka* (KM) and *saṃpadveṣṭika* (Saṃgītamakaranda). Note that in most versions all five syllables of the mnemonic are heavy as prescribed by the text. However, in order to make sense of this mnemonic, some versions have tried to correct it by shortening the penultimate vowel so that the word comes to mean 'having well-baked bricks'. See also Chaudhary 1997, 42.

[212] KSS uses spelling the *udghaṭṭa*, KM *udbaddha* and GOS/SR *uddhaṭṭa*.

[213] It has yet to be ascertained whether this introductory line constitutes an integral part of the passage under discussion, as there are doubts about its authenticity. See further discussion of 'fragment *m* 1b' in § 6.4.3.

[214] See, for example, Ghosh: "Due to Śamyā, Tāla and Praveśa, ..." (Transl. II, p. 56, v. 20).

These considerations lead to the tentative conclusion that (1) the *śamyā-tāla-praveśa* sequence cannot be regarded as an additional three-pointed combination of gestures; and (2) the *yathākṣara* structure of *ṣaṭpitāputraka* does not include a silent gesture (*i.e. praveśa*). Since this interpretation does not solve anything, we may turn to the second one according to which *śamyātālapraveśena* is analysed as a determinative compound (*tatpuruṣa*). When the final component (*°praveśa*) is not interpreted as a technical term, but as a periphrastic form of the instrumental case (cf. Speyer 1988, 41), our compound appears to be nothing more but a formulaic phrase indicating the way the beat-structure of *ṣaṭpitāputraka* should be derived, namely "by employing (*praveśena*) [two more beats, i.e.] *śamyā* and *tāla*, another (variety of) *tryaśra* (*tāla*) is prescribed."

For proving this point I derive support from a similar compound *dvi-śamyātālayogena* (KSS 31, 383c) where the last member is used in the same way as *°praveśena* in our compound. Note that now *°yogena*, a periphrastic form of the instrumental case, has been used instead of *°praveśena*. See further above, n. 208. These two forms have been used in both cases to paraphrase the means of deriving one structure from another, *i.e.* by employing or adding two more beats. After a description of the *sampiṣṭaka* component of the seven-limbed *oveṇaka gītaka* (vv. 381cd-3ab), follows a 'formula' for deriving that of the twelve-limbed *oveṇaka, i.e.* 'by adding two beats, namely *śamyā* and *tāla*' to the former structure (383cd *dviśamyātālayogena dvādaśāṅge 'pi ceṣyate*). In other words, the *sampiṣṭaka* pattern of ten *kalā-s* (with the beat-sequence *ni-śa-śa-tā-tā-śa-tā-śa-tā-saṃ*) served as the basic *kalā-s* for those of twelve *kalā-s* (with the beat-sequence *ni-śa-śa-śa-tā-tā-tā-śa-tā-śa-tā-saṃ*). The latter series has two more beats (underlined) than the former one, namely a *śamyā* and a *tāla*; this is exactly what is indicated above by the formula in v. 19ab.

2.5 Principles of structural expansion (I)

KSS 31, 25-29ab; KM 31, 26cd-30ab; GOS 31, 26-29; BI 31, 26-30ab[215]

The present section briefly introduces the principles of expanding the five standard *tāla-s*. The *yathākṣara* forms of these *tāla-s* have been outlined in the preceding section (vv. 9-24) and now it is discussed how other variations can be made from them. Nine variations have been accepted in total, namely three of the *caturaśra* type and six of the *tryaśra*. Since these matters have already sufficiently been discussed above, it suffices to provide summaries and references. For the method of structural expansion, one is referred to our comments on vv. 5-6 and 9cd (see further vv. 25-29ab; 40cd-43; 47-56; 65cd-66; 70-2; 208-20; 257-65cd; etc.). See further, below, § 6.5.3.

---

[215] Cf. translation of Ghosh 1961, 57.

25	[216]*evam ekakalo jñeyaḥ śuddhaś cañcatpuṭādikaḥ*	Om. in KM/K_{all}, but bracketed in GOS; *ekam ekakalo jñeyaḥ śuddhaś ca . tpuṭādikaḥ* KSS {*evaṃ* [...] *śuddhacaccatpuṭādikam* M *°ādika* BI} *śuddhaś caccatpuṭā budhai(dikaḥ)* GOS (26 cd). Cf. *evam ekakalaṃ(laḥ) śuddhau (ddho) yojyaś caccatpuṭo budhaiḥ* GOS (11cd) {*ity ekakalayā śuddho* B_2 v. 15cd}
	yathākṣaro 'atha dvikalas tathā caiva catuṣkalaḥ	'Bha' Vipulā; *tathā caiva* KSS/GOS/K_{all} *tathaiva ca* KM
26	*trayo bhedā hi tālasya dviguṇā dviguṇāḥ smṛtāḥ*	*dviguṇā dviguṇāḥ smṛtāḥ* KSS/B_2 v. 18ab {*lasyāth(?) dviguṇāḥ* KM *dviguṇād dviguṇāḥ* GOS} *dviguṇā dviguṇā smṛtā* K_{2-6} {*smṛtāḥ* K_1/M}
	caturaśras tribhir bhedais tālas tu parikīrtitaḥ	*prakīrtitaḥ* K_1 *parikīrtitaḥ* K_{2-6}/al. omn.
27	*catuṣkalo hy aṣṭakalaḥ kalāṣoḍaśakaḥ punaḥ*	'Bha' Vipulā; *catuṣkalo hy aṣṭakalaḥ* KSS/KM {*catuṣkalā* K_1} *catuṣkalā aṣṭakalā* K_4 *catuṣkalo 'aṣṭakalaḥ* $K_{2,3,5-6}$ *kalaṣoḍaśakaḥ punaḥ* KSS (misprint) {*kalā°* BI *kalāṣoḍaśakan* M} *kalāḥ ṣoḍaśa caiva hi* KM/GOS *kalāṣoḍaśa caiva hi* K_{all}
	tryaśras tālas tu ṣaḍbhedas trikalaḥ ṣaṭkalas tathā	*tryasras tālas* KSS *tryasratālas* KM; *ca* K_{all} *tu* al. omn.; *ṣaṭbhedas* KSS/M/K_{all} *ṣaṭbhedās* BI *ṣaḍbhedas* GOS
28	*kalādvādaśako 'pi syāc caturviṃśatikas tathā*	*kalādvādaśako 'pi syāc* KSS *kalādvādaśa . . .* K_{4-6} *kalā dvādaśa caivāsyāś* KM {*caiva syāt* GOS} *tathā kalā dvādaśaiva* B_2 v. 20a {*°dvādaśa .* K_{1-3}}; *°viṃśatikas tathā* KSS *°viṃśatir eva ca* KM/GOS/K_{4-6}
	kalāṣṭacatvāriṃśatkaṃ kalā ṣaṇṇavatī parā	'Ma' Vipulā; *kalāṣṭacatvāriṃśatkaṃ kalā* KSS *catvāriṃśat tathāṣṭau ca tathā* KM/GOS {*catvāriṃśas* K_{all}}; *ṣaṇṇavatī parā* KSS {*ṣaṇṇavatīḥ* M *tathā* BI} *ṣaṇṇavatiḥ kalāḥ* KM/GOS/K_4 {*kalā* $K_{1-3,5-6}$}
29a b	*tālo navavidhaś cāyam* [217]*samāsāt parikīrtitaḥ*	*navavidhiś cāyam* KSS/KM {*ghanavidhiś* M *navavidhaś* KM/GOS} *navavidhaś caiva* K_{all}; *ayugmaḥ samprakīrtitaḥ* KSS *samāsāt parikīrtitaḥ* KM/GOS/K_{all}

<25> Thus the pure [structures such as] *cañcatpuṭa*, etc., should be known as *ekakala*. *Yathākṣara* [=*ekakala*], *dvikala* and *catuṣkala* <26> are known as the three [basic] variations of a *tāla*, which are known as [respectively the plain form, its] double and the double [of the

---

[216] The GOS transposes the following two lines by one another. The first line is moreover bracketed in GOS (31, 26 cd) apparently because it already appeared earlier (i.e. v. 11 c-d) where Abhinavagupta commented upon it. Cf. above n. 183.

Furthermore, three stanzas which occur only much later in the KSS (i.e., 31, 44-6), are prematurely inserted at this place in KM (31, 23 cd-26 ab) and GOS (31, 23-25). As usual BI follows KSS. This transposition seriously impairs the reading of the text. See further our discussion on vv. 44-6 below.

[217] The KM/GOS reading is preferred here because a total of nine is only possible when the 'even' and 'odd' varieties are taken together (*samāsāt*), and not only the *ayugma* varieties, for that amounts to only six varieties (*ṣaḍbheda*).

latter]. [Accordingly] *caturaśra tāla* is known by three variations: <27> [the *ekakala*] of 4 *kalā-s*, [the *dvikala*] of 8 and [the *catuṣkala*] of 16. *Tryaśra tāla*, however, has six variations, *viz.* as having 3, 6, <28> 12, 24, 48 and 96 *kalā-s*. <29ab> And by taking [the variations of both types] together, *tāla*[218] is [thus] known to have nine variations.

2.6 *Tāla* cheironomy

KSS 31, 29cd-40ab; BI 31, 30cd-40cd; KM 31, 30-37cd; GOS 31, 30 ab-38 ab[219]

The present section deals with the system of *tāla* cheironomy, i.e., the practice of gestures of the hands, fingers and arms accompanying the metrical patterns. I have pointed out above (cf. Table 11) that from a pedagogical point of view, this section should have occurred before those sections dealing with matters that presuppose a full acquaintance with this system.[220]

In the general introduction (vv. 29cd33ab) two forms of gestures are distinguished: 'silent' and 'audible'. Four silent gestures are described first (vv. 33cd-35ab) and then four audible gestures (37cd-39ab). In between (35cd-37ab) the author describes the neutral matrixes made by silent gestures only. These matrixes form the basis of the expanded states. In *yathākṣara* each time-syllable of the rhythmic pattern was accompanied by a beat, but in the expanded states, it could be prefixed by one or more silent gestures. Further on in the *tāla* chapter this system is amplified with a more subtle form of cheironomy in which only the fingers are used (vv. 48-57; 172-187). For a detailed discussion on *tāla* cheironomy, see below, chapter 4.

29cd	[221]*dviprakāras tv ayaṃ tālo niḥśabdaḥ śabdavāṃs tathā*	*dviprakāras tv ayaṃ tālo* KSS/K$_{all}$ *dviprakāraḥ puraścāyaṃ* KM v. 16cd/GOS v. 16ab
30	*prayogaṃ dvividhaṃ cāsya kīrtyamānaṃ nibodhata*	Om. in KM/GOS/B$_2$; *prayogaṃ dvividhaṃ cāsya* KSS *naikān prayogās tv asya* K$_1$ {*prayogāś cā[pya]sya* K$_{2\text{-}6}$}; *nibodhataḥ* BI *nibodhata* al. omn.
	tatrāvāpo 'tha niṣkrāmo vikṣepaś ca praveśakaḥ	*tatrāvāpo 'tha niṣkrāmo* KSS/GOS *tatra cālāpaniṣkrāmau* KM/B$_2$ *tatrāvāpoś ca niṣkrāmo* K$_1$ {*tatrāvāyo 'tha* K$_2$ *tatra vāpo 'tha* K$_4$ *tatrāvāyo 'tha* K$_{5,6}$}; *vikṣepaś ca praveśakaḥ* KSS/M *vikṣepo 'tha praveśanam* KM/GOS/K$_{all}$/B$_2$
31	*caturvikalpa ity evaṃ niḥśabdaḥ kathito budhaiḥ*	°*vikalpam ity evaṃ* KSS °*vikalpa ity eṣa* K$_{1\text{-}3,5\text{-}6}$ {*ity eṣāṃ* K$_4$} °*dvikala ity evaṃ* KM °*vikalpa ity eva* GOS; *kathito budhaiḥ* KSS/M *parikīrtitaḥ* al. omn.

---

[218] Although the text reads 'this *tāla*' (*tālo* [...] *ayaṃ*) the demonstrative pronoun has been left untranslated as it seems to be a *pādapūraṇa*.

[219] Cf. translation of Ghosh 1961, 57 f.

[220] These sections are on (1) the three different beat-patterns in the two principle *tāla-s* (vv. 14cd-18); (2) the recognition of three other varieties of the *tryaśra* type of *tāla* (i.e. *pañcapāṇi* vv. 19-22ab, *sampakveṣṭaka* vv. 22cd-23 and *udghaṭṭa* v. 24); and (3) the principles of forming the three expanded states (vv. 25-29ab).

[221] This line is transposed in the KM and GOS.

	śamyā, tālo, dhruvaś ceti sannipātas tathaiva ca	*śamyā, tālo, dhruvaś ceti sannipātas tathā paraḥ* KSS *dhruvā śamyā ca tālaś ca sannipātas tathaiva ca* $K_{1-4,6}$ {*dhruva* K_5 *dhruvo* B_2 30, 23cd}; *ceti* KSS *caiva* KM; *paraḥ* KSS/GOS °*pare* KM.
32	*iti śabdena saṃyukto vijñeyaś ca caturvidhaḥ*	*iti śabdena saṃyukto* KSS/KM *saśabdalakṣaṇaṃ hy eta[d]* K_{all}/B_2; *vijñeyaś ca caturvidham* KSS {*vijñeyaṃ tu* K_{all}/B_2 *caturvidhaḥ* M/BI} *vijñeyas tu caturvidhaḥ* KM {*vijñeyo 'pi* GOS}
	eteṣāṃ atha vakṣyāmi hastāṅgulivikalpanaṃ	*atha* KSS *caiva* KM/K_{all}/B_2 *eva* GOS; °*niban- dhanam* 'Ba' (GOS Ms.) °*vikalpanam* al. omn.
33 ab	*lakṣaṇañ ca pramāṇañ ca yathāvad anupūrvaśaḥ*	Om. in KM/GOS (bracketed in KM_2); occurs in KSS/K_{all}

<29cd> *Tāla* [in the sense of cheironomical gestures] is of two types: 'silent' and 'audible'. <30> Listen [now] to its twofold application, which is taught as follows.[222] <31> The experts have explained that among these two (types) the 'silent' (type of *tāla* gestures) is fourfold, viz. *āvāpa*, *niṣkrāma*, *vikṣepa* and *praveśa*,[223]. The (other type of *tāla* gestures) that is 'accompanied by sound' should be known to consist of *śamyā*, *tāla*, *dhruva* and *sannipāta* <32> and [thus also] to be fourfold.[224] I will now explain their various forms [of moving] the hand and fingers, <33ab> namely their descriptions and measures - accurately and in due order.

2.6.1 Four silent gestures and their prescribed sequences

KSS 31, 33cd-37ab; BI 31, 34cd-38ab; KM 31, 33-35; GOS 31, 32cd-35[225]

33 cd	*uttānāṅgulisaṃkoca āvāpa iti saṃjñitaḥ*	*sarvāṅgulisamākṣepa āvāpa* KSS/M/K_{all}/B_2 {*ūrdhvāṅguli*° BI (silently)} *uttānāṅgulisaṃkoca ālāpa* KM {*āvāpa* GOS} Cf. *sarvāṅgulisamāveśa āvāpa parikīrtitaḥ* Ḍa'/'Ba' (GOS Mss.)

---

[222] Ghosh (Transl. p. 57, vv. 30-31) translates the second hemistich as follows: "... Listen about the two uses which they have. I am going to describe them."

[223] The final syllable in the reading *praveśaka* is *pādapūraṇa*.

[224] The mention and interpretation of *dhruva* in this passage is problematic (discussion follows). Internal evidence shows that, in fact, only three formal audible beats were in vogue at the time of the NŚ. From this point of view the reading *catur*° indicating the recognition of four beats, appears to be suspect.

[225] Cf. translations of Ghosh 1961, 57 f. and E. te Nijenhuis 1970, 329-331.

34	*niṣkrāmo 'dhogatasya syād*[226] *aṅgulīnāṃ prasāraṇam*	*adhogataḥ savyād* KSS *adhogatasya syād* GOS/BI {*adhogatassa* M *adhogatasya* (*tānāṃ* ?) KM}. Cf. *niṣkrāmaś ca praveśaś ca vikṣepaś cāṅgulīkṛtaḥ* K_{all}/B_2
	tasya dakṣiṇataḥ kṣepo vikṣepaḥ parikīrtitaḥ	*kṣepāt vikṣepaḥ parikīrtitaḥ* KSS {*kṣepo vikṣepaḥ* BI} *kṣepo vikṣepa iti saṃjñitaḥ* KM/GOS; cf. *adhogatābhir niṣkrāmaḥ kṣepa uttānitākṛtaḥ* K_{all} {*utthānikā kṛtaḥ* B_2}
35	*nivartanaṃ ca hastasya praveśo 'dhomukhasya ca*	*nivartanaṃ* KSS *nikarttanaṃ* M *vivartitena* K_{all}/B_2/'Ra' (GOS Ms.); *praveśo 'dhomukhasya* KSS {*°mukhāni* K_1 *°mukhena* $K_{2\text{-}6}$/B_2} *yomukhasya* M; *ca* KSS/M *tu* al. omn.
	kṛtvāṅgulīnām ākṣepaṃ niṣkrāmas tu bhavet atha	Om. in KM/GOS; 'Ma' Vipulā; *kṛtvā°* KSS *kṛtā°* 'Ra' (GOS Ms.) *niṣkrāmaṃ ca* KSS *niṣkrāmas tu* K_{all}/B_2
36	*vikṣepaś ca punaḥ kāryaḥ punaś caiva praveśanam*	Om. in KM/GOS; *vikṣepaś ca punaḥ kāryaḥ* KSS {*ca tataḥ* K_{all}/B_2}
	yadā catuṣkalo yogas tadā tv eṣa vidhir bhavet	*yadā catuṣkalo yogas* KSS/$K_{1\text{-}2}$ {*pātaś catuṣkalo* 'Ra' (GOS Ms.)/B_2} *pādaś catuṣkalā yogaṃ* $K_{4,6}$ {*catuṣkalo* K_5 *catuṣkalo yogas* K_3}; *vidhir bhavet* KSS/M *vidhiḥ smṛtaḥ* al. omn.
37 ab	[227]*niṣkrāmaś ca praveśaś ca dvikale parikīrtitau*[228]	*niṣkrāmaś* KSS *niṣkramaś* KM; *dvikalau* KSS *dvikale* al. omn.; *āvāpaniṣkrāmakṛto dvikalo yoga iṣyate* $K_{1\text{-}4}$/B_2 {*°niṣkrāmatā[jñeyaṃ]* K_5 *dvikamā yoga* K_6}

<33cd> The curving of the fingers [while the palm of the hand is] pointing upwards is called *āvāpa*; <34> the spreading of the fingers with [the palm of the hand] turned downwards is [known as] *niṣkrāma*; a swing of that [same hand position] [229]to the right side is known as *vikṣepa*; <35> the returning of the (palm of the) hand turned downwards [from the right side] [is called] *praveśa*.

---

[226] Unlike the KSS reading that of Ms. M makes sense when the final *s* in *adhogatassa* is interpreted as a wrong reading for *y*. This is in agreement with the KM/GOS reading.

[227] Note that the emendated reading of this line is identical with Datt. 137ab.

[228] The GOS unnecessarily inserts the variant reading of the K/B_2 Mss. as v. 35cd.

[229] The ablative *dakṣiṇatas* here is ambiguous; for an interpretation see discussion below.

> [Thus] after a 'contraction' (*ākṣepa*) of the fingers,[230] there should follow a 'spreading' (*niṣkrāma*); <36> then a 'swing' (*vikṣepa*) should be made [to the right], and again a 'return' [lit. 'entrance'] (*praveśa*). However, this [extended] procedure should apply [only] when the *catuṣkala* (state of expansion) is being used, <37ab> [whereas] in the *dvikala* (state) [only] *niṣkrāma* and *praveśa* are prescribed.

It should be clarified beforehand, that the gestures described here were evidently performed in a seated position, as attested to by a number of early depictions on reliefs at Bhārhut and other places (see § 4.2). This information may help in understanding how some of the gestures were executed. The implications for the audible beats and their execution are especially notable. On the meaning of these gestures, see above, § 2.3, Table 11.

First, the four silent gestures are explained. Although certain details in the descriptions are often not so transparent, the general idea conveyed is quite clear. *Āvāpa* and *niṣkrāma* are related gestures, which involve opposite movements of the fingers and hand. *Vikṣepa* and *praveśa* also seem to form a pair, as they represent gestures in which the hand moves to the right and back to a neutral position, whereas the fingers play no significant role. However, our text does not indicate whether there is any contrast between an upward or downward position of the hand. Post-classical sources, on the other hand, fully underscore this opposition: in *āvāpa* and *vikṣepa* the palm of the hand faces upwards, whereas in *niṣkrāma* and *praveśa* it faces downwards.

According to KSS, the *āvāpa* gesture constitutes a contraction of all fingers, i.e., the movement of making a fist (*sarvāṅgulisamākṣepa*). Other versions (KM/GOS) further indicate that during this gesture the palm of the hand faced upwards. This reading seems most likely, as it has been followed by Dattila and later tradition.[231] The *niṣkrāma* gesture seems to represent the opposite movement of *āvāpa*, because the fingers are now spread and the palm facing downwards.[232]

Our text indicates that *vikṣepa* was a swing of the hand to the right (probably with the palm facing down). Significant in this regard is the use of the deictic pronoun *tasya* at the beginning of v. 34 cd, because it refres to *niṣkrāma*, the gesture described in the preceding line. This indicates that the description of *vikṣepa* was based on that of *niṣkrāma*. This at least suggests that the hand-position of the former might have been the same as in the latter, *i.e.* with the palm facing down. The Kathmandu manuscripts, on the other hand, indicate in clear terms that *vikṣepa* was executed with the palm of the hand facing up (*kṣepa uttānitākṛtaḥ* $\mathrm{K}_{\mathrm{all}}$). Whether decisive force should be given to this deviating reading, or to the conservative readings, is not easy to decide. The adverb *dakṣiṇataḥ* used in the description of *vikṣepa* further complicates matters because it does not clearly indicate whether the direction of the movement took place from, on or at the right side. In this respect, Dattila is of no help, as he follows Bharata almost literally.[233] Śārṅgadeva, however, seems to have understood it as taking place *on* the right side (*dakṣiṇapārśva*, see below, n. 235). This seems to suggest that, in fact, the hand was swung from a central position *to* the right, say towards the right thigh, the probable point of orientation for all right-hand gestures.[234] Let us also consider the physical implications of a swing of the hand that faces downward and moves to the right. This may take place in a number of ways. One possibility is that the downward position of the hand is maintained throughout, but then there is no contrast with the preceding and following gestures with respect to the position of the hand. The other possibility is that as the hand moves to the right, it turns naturally to an upward position, or almost upward, say to an angle of about 135°. Śārṅgadeva and others uphold this view and describe *vikṣepa* in unmistakable terms as a swing to the right side with the hand 'facing up'.[235] This interpretation is sometimes accepted by modern scholars[236] obviously because it reminds one of *khālī*, a similar so-called silent *tāla* gesture in contemporary Hindustani music.[237]

---

[230] *Ākṣepa* seems to be used here as a synonym of *āvāpa*. See apparatus to v. 33cd where several other paraphrases are recorded: °*samākṣepa āvāpa* KSS/M °*saṃkoca āv̲āpa* KM °*samāveśa āvāpa* 'Ḍa'/'Ba' (GOS mss.).

[231] Cf. Datt. 118d *uttānāṅgulikuñcanam* and SR 5, 7 *hastasyottānasyāṅgulikuñcanam.*

[232] Cf. Datt. 119 ab *adhastalena hastena niṣkrāmākhyaṃ prasāraṇam* and SR 5, 7 cd *niṣkrāmo 'dhastalasya syād aṅgulīnāṃ prasāraṇam.*

[233] Datt. 119 cd *tasya dakṣiṇataḥ kṣepo vikṣepaḥ paribhāṣitaḥ.*

[234] At least in contemporary musical practice, this point of orientation is used very commonly.

Praveśa is contrasted to *vikṣepa* and described as the opposite motion, namely as a return of the hand (from the swing to the right, back to a neutral position) with the palm 'facing down'. Dattila and Śārṅgadeva, however, deviate considerably from Bharata. They describe it as the 'curving/folding' of the fingers and the palm facing down, however, without accounting for Bharata's *nivartana* (return) that neutralizes the rightward swing caused by *vikṣepa*.[238] This interpretation is problematic and appears to be unnecessary.

The silent gestures play no role in the basic form (*yathākṣara*) of *tāla* patterns, but rather in the formation of their expanded forms where their role is fundamental. The author describes their typical arrangement in the *dvikala* and *catuṣkala* states of expansion (§. 2.9.2). From a metrical point of view, two or four silent gestures are grouped into 'feet' or so-called 'part of a verse' (*pādabhāga*). A number of these feet further form matrixes (*mātrā*), which resemble the individual lines or verses of a song. The rhythm of those lines (*mātrā*) is of course determined by the pattern of beats that is imposed on them. This peculiar meaning of *mātrā* is not seen in poetical metre. On *pādabhāga* and *mātrā*, see further §§. 2.9.2 and 6.5.3.6 f. below.

2.6.2 Four audible gestures

KSS 31, 37ab-40; BI 31, 38cd-41ab; KM 31, 36-38ab; GOS 31, 36-38[239]

Firstly, *śamyā*, *tāla*, and *sannipāta* are described, the three beats or audible gestures which figure prominently in the numerous rhythmic structures. I drawn attention to the occurrence of the so-called *dhruva* beat in the NŚ. Unlike the other beats, it is hardly mentioned in the text, and is moreover not described in terms of direction, hands or fingers (see § 1.1.2), but only related to the duration and variation of a given unit of time (v. 40ab). This beat is first described in medieval times and its function seems to have been very different from that of the other beats. See also discussions in §§ 1.1.2, 2.6.3 and 4.6.

37 cd	***eṣām antarapātās tu pātasaṃjñāḥ prakīrtitāḥ***	*pātasaṃjñāḥ prakīrtitāḥ* KSS *pātasaṃjñā prakīrtitā* $K_{2\text{-}6}$ {*prakīrtitāḥ* K_1}
38	***śamyā tālaś ca vijñeyaḥ sannipātas tathaiva ca***	Om. in KM; *tālaś ca* KSS/K_{all} *tālas tu* GOS

---

[235] Cf. SR 5, 8 ac *kṣepo dakṣiṇapārśvasyottānasya prasṛtāṅguleḥ vikṣepo.*

[236] Cf. E. te Nijenhuis 1970, 330.

[237] Cf. E. te Nijenhuis, *ibid.* Ghosh (1961, 58) and Lath (1978, 318) abstain from further speculation.

[238] Datt. 120 ab *atha cākuñcanaṃ jñeyaṃ praveśākhyam adhastalam; SR 5, 8 cd adhastalasyāsya praveśo 'ṅgulikuñcanaṃ.*

[239] Cf. translations of Ghosh 1961, 58 and E. te Nijenhuis 1970, 331-333.

śamyā dakṣiṇahastasya,[240] *tālaḥ pātas tu vāmataḥ*	*śamyā dakṣiṇahastaḥ syāt, tālaḥ pātas tu vāmataḥ* KSS {*°hastasyān* M *°hastasya* BI/'Ḍa' (GOS Ms.)} *sahavyahastanipātas tu samyanalaś ca vāmataḥ* KM {*°nipātaḥ syāc chamyā, tālasya vāmataḥ* GOS/ B_2 *°nipātaś ca śamyātālaś ca vāmakaḥ* K_{all}}
39 *hastayos tu samaḥ pātaḥ sannipāta iti smṛtaḥ*	*hastayos tu samaḥ pātaḥ sannipāta iti smṛtaḥ* KSS *dvotyāṃ kalāsyāṃ patanaṃ sannipāta iti smṛtam* K_4 {*dvānyāṃ karā-syāṃ* K_1 *dvāsyāṃ karāsyāṃ* $K_{2\text{-}3,\,5}$ *dvātyāṃ karātyāṃ* [...] *smṛta* K_6} *dvābhyāṃ karābhyāṃ yatanaṃ sannipāta* B_2
[241]*†dhruvas tu mātrikaḥ pātaḥ rāgamārgaprayojakaḥ†*	Om. in KM/GOS/K_{all}/B_2; *dhruvaṃ tu mādrikaṃ* KSS/BI *dhruvas tu mātrikaḥ* M
40 *kalā* [242]*yā trividhā proktā tasyāḥ pāto dhruvaḥ smṛtaḥ*	*kalā yās trividhā proktā* KSS *tālāyās trividhāḥ proktāḥ* M *kalā yā trividhā proktā* KM/GOS; *tāsāṃ* KSS *tasyāḥ* KM/GOS *kalāyāṃ trividhā proktā tasyāḥ pāta dhruvaḥ smṛtaḥ* K_4 {*kalayāṃ* [...] *tasyā* K_5 *kalā yā* [...] *tasyā* $K_{1\text{-}2,\,6}$/K_3 unr.}
yathākṣarasya tālasya sa tu gurvakṣaraḥ smṛtaḥ	*ekākṣarasya* K_4 *yathākṣarasya* al. omn.; *sa tu gurvakṣaraḥ* KSS {*°akṣaro bhavet* BI} *sa ca gurvakṣara* K_{all} *sa rā (tu ?) gurvakṣare* KM *sa ca gurvakṣaraḥ* GOS {*°akṣara* K_{all}} *sarvagurvakṣaraḥ* 'Ra' (GOS Ms.)

<37cd> The [audible] beats occurring between these ['silent' gestures] are said to be called *pāta* ('beat'), <38> and should be known (as follows): *śamyā*, *tāla*, and *sannipāta*. [243]*Śamyā* is a beat of the right hand and *tāla* of the left hand. <39> The [beat produced] by striking both hands together is known as *sannipāta*.

The *dhruva*, however, is a beat that has [the duration of] a *mātrā* (mora) [in the fundamental *dhruva mārga*] [and its main function lies in] instigating the melody (*rāga*) and rhythmic style

---

[240] This reconstruction is based on 'Ḍa' (GOS ms.), which closely follows the KSS version.

[241] This line is further attested only by the Mss. of the KSS version (i.e. M and N). The fact that all other witnesses omit it, renders it highly suspect. See further §§ 1.1.2 and 4.6.

[242] The pronoun corresponding to *kalā .. trividhā*, should be *yā* (and not the plural *yās*); likewise should we read *tasyāḥ* instead of *tāsāṃ*.

[243] In classical literature *śamyā* and *tāla* usually refer to the clapping of the hands or the beating together of sticks during music and dance (see §§ 3.1 and 4.2). Raghavan identifies Śamyā as the Sanskrit name for the dance called Kōl-āṭṭam in Tamil, in which the dancers strike with coloured sticks (Kōl). This dance is also called Daṇḍa-rāsaka (1978, 541). Śamyā in the sense of a stick and a measure may have its origin in ritual sources. Sparreboom mentions that the wedges or yoke-pins used for keeping the oxen of carts or chariots in place, were called *śamyā* (1985, 26, 124) and that a so-called *śamyā*-throw was a distance measure (pp. 36 ff., 124).

(*mārga*).[244] <40> [But in other derived *mārga-s*] the *kalā* (unit of time), which has been taught [earlier, in vv. 5-6] to be threefold, is [also] known to have a *dhruva* beat. In [245]*yathākṣara tāla*, however, [246]it is said to have (the measure of) a long syllable.[247]

As regards the audible gestures, or beats proper, *śamyā* is described as a clap of the right hand, *tāla* of the left and *sannipāta* of both hands. Admittedly, the silence about the location of these claps gives rise to speculation. From personal communications with Indian scholars, I have learned that *śamyā* may be conceived as a slap of the right hand on the left hand, and *tāla* as that of the left hand on the right. This idea appears to derive from depictions on early reliefs at Bhārhut where cheironomists are depicted as seated on the ground and striking one hand on the palm of the other (see further § 4.2). However, a clap of the right hand on the left hand, or *vice versa*, technically amounts to a *sannipāta* stroke, which has actually been described as a clap with both hands. This could mean that the figures shown on Abbildungen 3, 4, 9 and 10 (see Kaufmann 1981) with the hands clasped together, depict the essential action of *sannipāta*. So, to avoid confusion with *sannipāta*, one may try to understand *śamyā* and *tāla* by means of a relief from Mathurā (*op. cit.*, Abb. 78 and 79), that depicts four cheironomists seated on the ground with their right arm and hand raised straight up and their left hand resting on their lap. To me, the vertical position of the hands and arms clearly suggest a vertical stroke, *śamyā*, and evidently on the right thigh, because the position of the left arm and hand do not seem to anticipate a powerful stroke. The fact that Bharata describes *śamyā* and *tāla* as claps that were executed with the right or left hand alone, also suggests that they were executed by slapping the respective thighs.[248] This relief could well be the evidence proving that *śamyā* was struck on the right thigh and *tāla* on the left thigh.

According to one etymology, *sannipāta* seems to refer to a beat that is executed by clapping (*°nipāta*, lit. 'hurling') [the hands] together (*saṃ*), but according to another interpretation, it may be a beat in which the hands 'fall down' (*°ni-pāta*) 'in an even manner', or 'at the same time' (*sama*). The second derivation seems to be suggested by the author (v. 39ab *samaḥ pātaḥ sannipātaḥ*). This could mean that *sannipāta* as well as the other audible beats might have been executed on the thighs. Visually both ways of execution are very distinct, but audibly there is hardly any difference since both are marked with a significant increase in intensity, in comparison to single-handed strokes. Whatever may have been the case, the effect of *tāla* cheironomy proved inadequate, and had to be supported, and eventually almost replaced by cymbals in later times. See further § 4.2.

---

[244] The translation of the phrase *rāga-mārga-prayojakaḥ*, is nothing but a wild guess, but certainly in the spirit of later music theory, because in the classical period the word *rāga* was not yet used in the relatively modern sense of melody or mode. Widdess (1997, 38 f., 40, 42 f.) shows that neither the NŚ nor the Datt. describes the *rāga-s* or alludes explicitly to their existence, except for a few stray references in the NŚ. Our verse is obviously one such instance (though not discussed by Widdess). So if this verse is authentic, the word *rāga* should be interpreted in a different way. In this respect Widdess (1997, 37 ff.) indicates that in the earliest period *rāga* is used in the sense of musical passion, aesthetic sentiment, emotional effect, etc. A case in point is verse 32, 368cd (BI) *rāgaprasādajananī jñeyā prāsādikī sā tu*. Here *prāsādikī* refers to one of the Dhruvā songs (see § 2.3 above), which generally have a special function in arousing certain sentiments.

[245] The notion of *yathākṣara tāla* has in fact already been alluded to above in v. 13. It refers to a basic pattern, the rhythmic form of which is determined by the length and shortness of its constituent syllables. Here *yathā°* has a distributive sense.

[246] The deictic pronoun *sa* (m.) here refers back to *dhruva pāta* (m.) because when referring to *kalā* it would have the feminine form *sā*.

[247] As usual, the word *yathākṣara* here is used as a synonym of *ekakala*. See comments on vv. 25 ff.

[248] This option is at least considered by Widdess (1981, 498) and Rowell (1992, 190 f. and 194).

2.6.3 The *dhruva* beat[249]

The first two lines of this passage indicate that *dhruva*, the 'constant' beat, is different from the other three beats; it is not mentioned along with *śamyā*, *tāla*, and *sannipāta*, which are characterised as beats that occur between silent gestures. This also means that it could play no role in the formation of *tāla* patterns, which were as a rule made up of a series of silent and audible gestures. Notably, the notion of *dhruva* is related to the duration and variation of a given unit of time. Even though the text is somewhat cryptic, and perhaps corrupted, at least in v. 39cd, we may try to understand what is meant here by *dhruva pāta*.

A main problem in this passage is that three somewhat conflicting statements are made about the duration of the beat. (1) It is said to constitute a beat that has the duration of a *mātrā* (mora). Leaving aside for a while what is meant by the qualification *rāgamārgaprayojaka*, we may move to the following verse, where (2) *kalā* is said to have *dhruva pāta*. And (3) that in *yathākṣara tāla*, *dhruva* has the measure of a long syllable.

In statement (1) a standard appears to be set for the occurrence of *dhruva*, namely on every *mātrā* (mora), but in statement (2) this 'rule' seems to be overruled because *dhruva* may also occur on every *kalā*, which, as a matter of fact, has different values. It has already been discussed that *kalā*, the accepted standard unit of time in *tāla*, is variable (see above, vv. 5-6). This means that depending in which rhythmic style (*mārga*), tempo (*laya*), or state of expansion (*tāla*) the music is performed, the *kalā* assumes the value of two *mātrā-s* in *citra mārga*, four *mātrā-s* in *vṛtti mārga* and eight *mātrā-s* in *dakṣiṇa mārga*. Does this mean that irrespective of their different values, each *kalā* in a given pattern is to be accompanied by a single *dhruva* beat, or, when the rule is strictly applied according to statement (1), that each *mātrā* in them should have a *dhruva* beat?

In both situations *dhruva* operates like the constant beat of a metronome. In the first case it would occur on every *kalā* (irrespective of its value), and in the second on every mora. In the latter case it does not seems to be very practical, because regardless of the style or tempo (*laya*), the *dhruva* beat would always occur on every mora; the tempo of this beat would thus always be the same. But in the first case, the distinct demarcation of every *kalā* proves its practicability and functionality, because the given style or tempo of the performance can immediately be gauged from the relative duration of each *dhruva* beat. In the slow tempo it has a duration of eight *mātrā-s*, in moderate tempo four, and in fast tempo two.[250] Statement (3), in fact, corroborates my interpretation, because it indicates that in the *yathākṣara tāla*, or perhaps better, in the *ekakala* mode where the value of a *kalā* is one *guru*,[251] the constant *dhruva* beats occur at constant intervals of a *guru* syllable and also mark the related tempo, in this case the fast tempo (*druta*).[252] Note that according to this interpretation the constant pulse of the *dhruva* beat often goes against the rhythm of the audible beats.

---

[249] There is reason to assume that the recognition of the *dhruva* beat in the NŚ is suspect (see above § 1.1.2). But since all witnesses agree in enumerating it among the group of audible beats (vv. 31cd f.). I am forced to treat it as such.

[250] It is apparently because of this particular functionality that the author uses single forms for *kalā* as well as for *dhruva pāta* in v. 40ab. I have expressed the same in my translation.

[251] Accordingly, the *kalā* in *dvikala* and *catuṣkala* has the value of two and four *guru* syllables respectively. See further discussion on the rules of *tāla* expansion, section 6.5.3 below.

[252] On the inversely proportional relationship between *kalā* and *laya*, see §§ 2.1.1 and 6.2.3. f.

In this light, the first statement needs to be clarified. Since the value of *kalā* ranges from two to eight *mātrā-s* in the respective *mārga-s*, the author might have felt it necessary to indicate briefly on which point the variability of the *kalā*, as well as that of the *dhruva* beat, was based. The arithmetic sequence 2 > 4 > 8 dictates that the starting point is a *kalā* of 1 *mātrā* duration. Although Bharata does not clearly relate the idea of a moraic *dhruva* to a fundamental *mārga* (where a *kalā* has the value of a single mora), he obviously assumes it. In this regard the occurrence of the word *mārga* in the compound in v. 39cd is significant. Dattila, on the other hand, makes it perfectly clear that a so-called *dhruva mārga* with a moraic *kalā* lies at the basis of the other *mārga-s*.[253]

So according to my understanding of the text, the *dhruva* beats occur per *kalā*, that means that a pattern of, say, a total measure of four *kalā-s*, should be marked by the same naumber of *dhruva* beats. For example, *cācapuṭa* (SIIS) has a sum total of six *mātrā-s* (= three *guru*/*kalā*) and thus requires three equidistant *dhruva* beats. Śārṅgadeva and others, however, follow the opposite view according to which each *mātrā* should be marked by a separate beat. For this purpose a distinct set of eight beats was introduced into the popular music (*deśī*) of the post-classical period, viz. *dhruvakā, sarpiṇī, kṛṣṇā, padminī, visarjitā, vikṣiptā, patākā* and *patitā*. They were described as 'sounding', 'moving leftwards', 'rightwards', 'downwards', 'outwards', 'contraction of the hand' 'moving upwards' and 'clap of the hands' respectively (cf. SR 5, 12-6). Most appropriately, they were individually as well as collectively denoted as *mātrā*. After this introduction, Śārṅgadeva explains that in *citra mārga* the first two gestures are used, in *vṛtti mārga* the first two and the last two, and in *dakṣiṇa mārga* all eight (SR 5, 15cd f.). Śārṅgadeva further seems to harmonise both views by concluding that these *mātrā* gestures were to be performed in addition to the *dhruva* beats [occurring per *kalā*?].[254]

The function of the *dhruva* beat seems to have been very different from that of the other beats. It should be clear that the arrangement of the latter was responsible for fashioning the characteristic rhythmic structure, say the rhythm, of a given pattern (see below, section 7.3), and the *dhruva* beat, for marking the relative tempo in very much the same way as a metronome does. Some further argue that the *dhruva* finger snaps provided additional control of slow tempos and marked the passage of time during certain sections where the regular sequence of meaningful gestures was suspended.[255]

2.7 Principles of structural expansion (II)

KSS 31, 41-43; KM 31, 38cd-9; GOS 31, 39-40ab; BI 31, 41cd-44ab[256]

The principles of deriving the 'twofold' (*dvikala*) and 'fourfold' (*catuṣkala*) states from the basic or syllabic form (*yathākṣara*) of the *tāla-s* have already been introduced and discussed on several occasions (see above, introduction to vv. 25-9ab). Here those principles are reinforced, apparently from a slightly different point of view. The fundamental position of the *yathākṣara* form is highlighted, or more specifically, the beats (*pāta*) constituting these syllabic forms (vv. 40cd-42ab). The characteristic arrangement of these beats can be observed in all three variations of each *tāla* (vv. 42cd-43).

For the application of the silent gestures and their additional marking with the fingers (*aṅgulivikṣepa*), see below, vv. 47-56.

---

[253] See below, nn. 551 and 661. See also § 6.2.4 where I discuss the assumption of a *dhruva mārga*.

[254] SR 5, 15ab *dhruvapāte prayojyās tā nāvāpādau kadācana.*

[255] Cf. Rowell 1992, 194.

[256] Cf. translation of Ghosh 1961, 58 f.

41	*yathākṣarakṛtaiḥ pātais tālo jñeyo yathāsthitaḥ*[257]	*yadā°* KSS *yathā°* al. omn.: *pātais tālo jñeyo* KSS {*pātas* BI *tāle* KM}: *yathāsthitaḥ* KSS/BI *yathākṣaraḥ* al. omn.}
	gurvakṣaraiś ca viśliṣṭaiḥ sa eva dvikalo bhavet	*°akṣaraiś tu* KM *°akṣaraiś ca* al. omn.: *sa eva dvikalo bhavet* KSS/GOS {*vikalo* M} *sa nava* (*eva ?*) *dvikalaḥ smṛtaḥ* KM *sa eva dvikala smṛtaḥ* K_1/B_2 {*dvikalaḥ* $K_{2\text{-}6}$}
42	[258]*dvirbhāvo dvikalasyaiva vijñeyas tu catuṣkalaḥ*	*dvirbhāvo dvikalasyaiva vijñeyas tu* KSS {*dvirbhāvā dvikalasyātra* KM} *dvirbhāvād dvikalasyāpi vijñeyo 'tha* GOS *dvirbhāgo dvikalasyāpi vijñeyaḥ syāc* K_{all}
	yathākṣarakṛtaiḥ pātais sarvair eva prakīrtitaḥ[259]	Om. in KM/GOS: *°kṛtaiḥ pātais* KSS *°kṛtā pātā* BI (silently): *yadā°* KSS *yathā°* al. omn.: *sarvair eva* KSS {*ete* M *etaiḥ* $K_{1,3\text{-}6}$} *sarvaiḥ sarvair etaiḥ* K_2
43	[260]*cañcatpuṭasya tālasya tathā cācapuṭasya ca*	Om. in KM; *cañcatpuṭasya vijñeyas tathā cāpapuṭasya ca* KSS {*cācapuṭasya* M} *caccatpuṭasya tālasya tathā cācapuṭasya ca* $K_{1\text{-}2}$/GOS v. 53ab
	pañcapāṇeś ca vihitāḥ bhedā hy ete trayaḥ trayaḥ	Om. in KM; *pañcapāṇeś* KSS/K_1 *pañcapāṇaiś* $K_{2\text{-}4}$; *vihitāḥ* KSS *vihitā* al. omn.; *trayaḥ smṛtāḥ* KSS *trayas trayaḥ* K_{all} *pṛthak pṛthak* GOS 53d

<41> A *tāla* with (its) beats arranged according to [the length and shortness of] its syllabic form (*yathākṣara*), should be known to be standing properly (*yathāsthita*). The same [*tāla*] with (its) long syllables doubled,[261] should become *dvikala*. **<42>** And [similarly] the doubling of [the syllables of] the *dvikala* itself, should be known [to result into] the *catuṣkala*, which is [also] prescribed with all the beats arranged in the *yathākṣara* (pattern). **<43>** All these three variations [= states of expansion] have been prescribed for *cañcatpuṭa*, *cācapuṭa* and *pañcapāṇi tāla*.

Earlier on (§ 2.5) the method of expanding the basic *tāla* form (*yathākṣara*) was also explained as a process of successive doubling of the time-values. In this way three expanded states were distinguished, viz. *ekakala*, *dvikala* and *catuṣkala* (see above, vv. 25-29ab). The expanded forms were referred to as variations (*bheda*). Nine so-called variations were accepted in total, three of the *caturaśra* type and six of the *tryaśra*. The point the author makes in this section is that all these variations are characterised by the beat pattern of their syllabic forms, the *yathākṣara*. It should, however, be kept in mind that the beat pattern alone does not say much about a given *tāla*, if there is no beat structure that is determined by the relative distribution of the time-syllables of the *yathākṣara* (see below, discussion on the *yathākṣara*, § 6.3.1).

---

[257] The KSS reading *yathāsthitaḥ* is not supported by the related Mss. (i.e. M, K_{all}, etc.) which read *yathākṣaraḥ* like the KM and GOS versions. Although this may be reason enough to emendate our text, we abstain from doing so because in both ways the meaning is more or less the same; as *yathākṣara* occurs in the same line, this could be a stylistic variant. A *tāla* 'as it is' (*yathāsthitaḥ*) or 'in its syllabic form' (*yathākṣaraḥ*) relate to the same fundamental form.

[258] Cf. repetition in GOS 31, 236cd *dvirbhāvā dvikalasyaiva vijñeyaṃ tu catuṣkalam*.

[259] My emendation (*ā* > *a*) is minimal, whereas that by Ghosh (BI) disturbs the syntax.

[260] KM omits the following two lines. In GOS they are transposed to v. 53.

[261] *Viśliṣita*, lit. 'loosened', 'disjoined', but here it is used in the sense of pulling asunder, i.e. expanding the *guru* syllables of the *yathākṣara* [= *ekakala*] to double their value. It is paraphrased in the following line as *dvirbhāvo* 'doubling'. In *ekakala* the different syllables of the *yathākṣara* (i.e. *laghu*, *guru* and *pluta*) are homogenised or translated into *guru* syllables.

Yathākṣara is explained as the basic state of a *tāla*, whose structure is embedded in the syllabic pattern of the mnemonic of that *tāla*. In other words, the metrical structure is revealed by the fixed patterns of *laghu*, *guru* and *pluta* syllables constituting their mnemonical names. An interesting feature of the *yathākṣara* is that the gestures accompanying its syllables are usually audible beats, whereas the other states also have silent gestures augmenting the audible ones. An exception to this rule is *udghaṭṭa tāla* (see further v. 24).

2.8 *Miśra* and *saṃkīrṇa tāla-s*

KSS 31, 44-7; KM 31, 23 cd-26ab; 40; GOS 31, 23 – 25; 40cd-41ab; BI 31, 44 cd-48ab[262]

The present section mentions a number of unusual measures as well as the songs where they are applied. The *miśra* and *saṃkīrṇa tāla-s* are primarily discussed, two *tāla* types which are quite different from the two more common *tāla-s*, *i.e.* *caturaśra* and *tryaśra*. Obviously to show contrast, the author also mentions two common patterns of the latter two types, which are also stated to be used as *tāla* patterns in less common songs such as *dhruvā*. This section should perhaps be read best in the context of *tāla* types, say immediately after the discussion of the three *miśra* varieties, as indeed is the case in KM (31, 23 cd-26 ab) and GOS (31, 23-25. The first three stanzas seem to have somehow been transposed in the KSS to their present location. See further below, discussion of fragment *m* 2 (§ 6.4.4).

44	*vyudasya yugmam ojam*[263] *ca pañca tālā bhavanti hi*	*vyudasya* KSS/K$_1$ *vudasya* K$_{2\text{-}6}$ *vyudasya* al. omn.; *yugmarājaṃ tu* KSS/M *yugmayojaṃ ca* K$_{2\text{-}5}$ *yugmato ye ca* KM *yugmam ojaś ca* GOS {*odaṃ ca* K$_1$} *yugmam ojaṃ ye* BI/KSS$_3$
	miśrā gītāṅgasaṃyuktā jñeyā hy udghaṭṭakādayaḥ	*miśrāgītāṅgasaṃyuktāt* KSS *miśrā gītāṅgasaṃyuktā* KM/K$_{1,4\text{-}5}$ {*mitrā°* M *misrā* K$_{2\text{-}3}$}; *udghaṭṭakadayaḥ* KSS {*°kādayaḥ* M/K$_{\text{all}}$} *udbaddhakādayaḥ* KM {*udhaṭṭakā°* GOS *udghāṭakā°* K$_1$}
45	*kalāḥ pañca tathā sapta punar nava ca kīrtitāḥ*	*kalāḥ pañca tathā sapta* KM/M/K$_{1,4}$ {*kalāpañca* KSS} *kalā sapta tathā* K$_{2\text{-}3,5}$
	daśa caikādaśaite ca saṅkīrṇāḥ samudāhṛtāḥ	*daśa caikādaśaite ca* KSS *daśaikādaśa caivaite* KM/K$_1$ {*caivete* K$_{2\text{-}5}$}; *pañca kīrtitāḥ* K$_{\text{all}}$ *samudāhṛtāḥ* al. omn.
46	*na hy eṣām upayogo 'sti saptarūpe dhruvāsv api*	*upayogasya* K$_{1\text{-}4}$ *upayogo 'sti* al. omn.; *dhruvāsv api* KSS *dhruvāsu ca* KM/K$_{1\text{-}2}$ {*vā* GOS/K$_{3\text{-}5}$}

---

[262] Cf. translations of Ghosh 1961, 59 and E. te Nijenhuis 1970, 339.

[263] Since *yugmarājaṃ tu* (KSS) makes little sense, we opt for the double accusatives as suggested by the K mss.

pravṛttādiṣu kartavyā ete gānaprayoktṛbhiḥ	*pravṛty ādiṣu* K_1 *pravṛttādiṣu* al. omn.; *hy ete* K_{1-5} *ete* al. omn.; *gānaprayoktṛbhiḥ* KSS/K_{all} *bhūyaḥ prayoktṛbhiḥ* KM
47 *tryaśraś ca caturaśraś ca ṣaṭkalo 'ṣṭakalas tathā*	Om. in K Mss.; *'ṣṭakalas tathā* KSS/KM *'ṣṭakalaḥ smṛtaḥ* GOS
dhruvāṇāṃ tu bhavet tālas tam pravakṣyāmi tattvataḥ	Om. in K Mss.; *tu* KSS/KM (v. 40) *ca* GOS; *tālaṃ sampravakṣyāmi* KSS *tālais taṃ ca vakṣyāmi* KM {*tālas* GOS}

<44> Apart from the 'even' and 'odd' [*tāla-s*, *i.e. caturaśra* and *tryaśra*] there are five [other] *tāla-s*. [The *tāla-s* such as] *udghaṭṭa*, etc., should be known as *miśra* and connected with limbs of songs (*gītāṅga*). <45> [The 5 *tāla-s* mentioned above] are known as [measures having] 5, 7, 9, 10 and 11 *kalā-s* (respectively) and are called *saṅkīrṇa* [*i.e.* 'mixed' *tāla-s*]. <46> They are not applied [as limbs] in the sevenfold [*gītaka-s*] or in the *dhruvā-s*, [but] performers should [nevertheless] apply them [as sub-limbs] in [melodic components such as] *pravṛtta*, etc.

<47> [Nonetheless,] the 'uneven' and 'even' (patterns) of six and eight *kalā-s* respectively, can [also] be the *tāla* of the *dhruvā-s*. I will accurately describe that [later].

Tāla patterns of a variety of measures and types were used in a wide repertoire of songs such as Āsārita-s, Vardhamā-s, Gītaka-s (i.e. Madraka, Aparāntaka, Prakarī, Ullopyaka, Rovindaka, Oveṇaka and Uttara), Dhruvā-s, etc. The common application of patterns of six and eight *kalā-s* (or their multiple figures) needs no special mention, unlike that of uncommon patterns. For a closer discussion the reader is referred to §§ 6.4.4 f., below.

It should be noted that the treatment of *dhruvā* songs does not begin with v. 47, as could be concluded from a literal interpretation of the verse, especially when the broader context of the discussion is lost sight of. As such the author seems to announce that [now] he will explain the *tāla* of the *dhruvā* songs, namely 'uneven' and 'even' patterns of six and eight *kalā-s* respectively. This would imply that the first part of the *tāla* chapter that introduces the basic principles of the ancient *tāla* system, does not terminate with KSS v. 58, as assumed by myself[264] and others,[265] but with v. 46. However, a closer study shows that this interpretation is most unlikely.

As a matter of fact, the *tāla* of the *dhruvā* songs is discussed much later in KSS 31, 425cd-439ab [= BI 31, 376-87; but not in KM/GOS]. Likewise the textual, metrical and poetical aspects are dealt with only in the *dhruvā* chapter (NŚ 32). Even Abhinavagupta notes that Bharata did not treat the *dhruvā-tāla* from KSS 31, 47 onwards, but, in fact, promises to do so 'extensively [later on] in the *dhruvā* chapter' (A.bhā. IV, p. 167 l. 24 ***taṃ ca vakṣyāmi tattvata iti dhruvādhyāye***). Abhinavagupta could not possibly refer to the passage in the *tāla* chapter itself because it is missing in his version (GOS). One may thus conclude that the future tense in v. 47 should be taken literally because the author will discuss this aspect of the *dhruvā-s*, but indeed much *later* on in the chapter and elsewhere.

It should be made that the finger cheironomy, treated in the following passages, is not necessarily a matter of the *dhruvā* songs alone,[266] but, in fact, of all important songs such as the *āsārita-s* en *vardhamāna-s* (zie KSS 31, 172; 179cd-190). As regards its application in the *gītaka-s*, the NŚ is silent, but if we can trust Śārṅgadeva regarding this matter, then on the authority of the wise, finger cheironomy in *madraka* (the first and probably the most popular *gītaka*) must be applied as in *cañcatpuṭa* (*tāla*)."[267] On the other hand, nothing is said about finger cheironomy in chapters 5 and 31 of the NŚ where the *tāla* structures of important *dhruvā-s* are discussed! This does not immediately mean that they lacked this specific kind of cheironomy; I think that even the opposite is true. Since the finger cheironomy of the basic *tāla* patterns [of 6, 8 and 12 *kalā-s*] has systematically been described (see vv. 48-56), one could infer that most of the songs (including the *dhruvā-s*), which are based on them, also have those characteristics in common. Here one could rely on the principle that the whole assumes the characteristics of its constituent parts. This is evident at least for the *āsārita-s* and *vardhamāna-s* where the finger cheironomy along with the hand cheironomy is described (cf. KSS 31, 172; 179cd-190). This argument not only proves the point that finger cheironomy belongs to the basic theory that is applicable to all types of songs, including the *dhruvā-s*, but also that the introductory part of NŚ 31 includes the section on finger cheironomy.

---

[264] See Tables 4 and 5 above.

[265] Cf. E. te Nijenhuis, who, following the BI edition, confines this section between vv. 1 to 61, which runs parallel with KSS vv. 1-58 (1977, 7).

[266] See for example, E. te Nijenhuis 1970, 346 f., who assumes that the finger cheironomy discussed in the following passage (vv. 48-56), 'was specially meant for the *tālas* applied in the *dhruvā* songs.'

2.8.1 Constituent elements (*aṅga/vastu*) of the musical compositions

KSS 31, 267cd-308ab; KM 31, 175-208ab; GOS 31, 190-229ab; BI 31, 200cd-246

It is necessary to dwell for a while on the issue how all the various *tāla* patterns relate to the songs mentioned above. Before presenting the seven *gītaka* compositions (vv. 308cd-406), Bharata introduces their constituent elements (*aṅga*) in two phases; first the melodic components (vv. 267cd-86) and then the structural components (vv. 287-308ab). The literal meaning of *aṅga* ('limb', 'member', etc.) already indicates that it constitutes some larger body. The seven *gītaka-s* constitute the main structures or bodies of which *aṅga-s* form the numerous parts or components. However, the NŚ seems to make a distinction between *gītaka-s* formed by *vastu-s* and those formed by *aṅga-s*,[268] though without clearly indicating their distinguishing characteristics. Abhinavagupta therefore singles out the Madraka, Aparāntaka and Prakarī as forming one group of *vastu*-based songs, and the Ullopyaka, Rovindaka, Oveṇaka and Uttara as the other group of *aṅga*-based songs.[269] Significantly, Bharata seems to first discuss of the *vastu*-based songs and then the *aṅga*-based songs, though not in the same order as suggested by the enumeration above.[270] The main distinction that may be pointed out in this regard, is that *vastu-s* are generally repeated units of greater length, with many subdivisions (comparable to stanzas),[271] whereas *aṅga-s* are shorter and more diverse.[272] However, these *vastu*-based songs were based on the principle of repetition, that means that uniform sections were repeated in succession, whereas the *aṅga*-based songs were based on the principle of contrast between parallel components such as *mukha-pratimukha*, *śākhā-pratiśākhā* and *pāda-prati-pāda*. The application of *vastu* does not exclude the application of *aṅga*, or *vice versa*, because the *vastu*-based songs, for example, contain several *aṅga* components besides their main body that is formed by *vastu-s*. Another aspect of this integration can be found in the sections on the *āsārita* songs where the notions of *vastu* and *aṅga* reflect the perspective from which the structure was analysed. From the point of view of *aṅga-s* the structure of the *āsārita* was analysed into a number of well-defined *tāla* measures such as *cancatpuṭa* and *pañcapāṇi*, but from the point of view of *vastu-s*, the *tāla* measures were not the norm and the structure was analysed into measures with a different number and different arrangement of beats.[273]

---

[267] SR 5, 84ab *caccatpuṭavad aṅgulyaḥ kartavyāḥ madrake budhaiḥ*. See further Kallinātha's comments on SR 5, 84ab (Kalānidhi pp. 50 f.). See also S.Rāja 2, 4, 1, 100 cd.

[268] KSS 4, 289cd f. (GOS 4, 292 f.) *yāni vastūnibaddhāni yāni cāṅgakṛtāni ca* ǁ *gītāni teṣāṃ vakṣyāmi prayogaṃ nṛttavādyayoḥ*. See also vv. 292cd-302.

[269] A.Bhā. on NŚ (PSS) 4, 292 p. 195 ll. 2 ff.

[270] The order followed by Bharata is Madraka, Aparāntaka, Ullopyaka, Prakarī, Oveṇaka, Rovindaka and Uttara, though one would expect Ullopyaka to occur after Prakarī.

[271] The *vastu* in *madraka*, for example, consists of three lines called *mātrā-s* of varying length depending on the state of expansion (*mārga*) in which it is performed (see below, v. 317).

[272] Cf. Rowell 1988, 158, n. 29 and Ramanathan 1999, 140.

Despite the superficial distinction observed between *vastu* and *aṅga*, Bharata apparently considered it reason enough to mention them separately in the list of topics treated in the *tāla* chapter.[274] Dattila too mentions both terms in his synopsis (Datt. vv. 110-12), but Śārṅgadeva on the other hand (SR 1, 1, 44-8ab), omits *vastu* from the list of *tāla* topics. This ommission is significant, as it seems to indicate that Śārṅgadeva did not attach much value to the distinction between *vastu* and *aṅga* suggested by his predecessors. Occasionally the NŚ even uses the terms as synonyms.[275]

However, relatively more important than the quantitative difference between *vastu* and *aṅga*, is the qualitative difference observed between the two categories of *aṅga-s* prevalent in the realm of *tāla*. The credit for noticing this formal difference goes to Abhinavagupta who coined two separate terms to distinguish between: (1) *aṅga* as a structural component or a section (*tālāṅga*), and (2) *aṅga* as a melodic unit or phrase (*varṇāṅga*). Even though Bharata himself does not use the terms *tālāṅga* and *varṇāṅga*, I have adopted them because of their practical utility.[276]

As already indicated, the *tālāṅga-s* were mainly of two types: (1) the large ones called *vastu*, and (2) the smaller ones, called *aṅga*. The latter comprises about twenty members, such as for example, *mukha*, *pratimukha*, *śīrṣaka*, *anta*, *antāharaṇa*, etc., and are treated in a separate section (vv. 287-406). The *varṇāṅga-s* on the other hand, represent the melodic units and phrases which naturally go along with most of the sections of a song (*i.e. tālāṅga-s*). Three main types of *varṇāṅga-s* were distinguished depending on the number of phrases comprising them: (1) the *ekaka aṅga* of one phrase, the *dvividha* of two, and the *vṛtta* of more than two.

As melodic units they are distinguished from one another on the basis of such melodic characteristics as contour (ascent/descent), cadences, beginning or ending on a particular functional scale degree, resemblance or contrast to other *aṅga-s*, and the like.[277] In fact, the *varṇāṅga-s* hardly tell anything about the melody as such, but only indicate some of their main notes and position, and characteristic contour.

---

[273] Abhinavagupta qualified these perspectives as *avibhaktāṅga* and *vibhaktāṅga* respectively.

[274] For a discussion of this list and its topics, see § 1.1.1 above.

[275] In the *aparāntaka*, for example, the term *vastu* is used both in the sense of an *aṅga* when referring to the individual *vastu-s* constituting the *śākhā*, as well as in the sense of a technical *vastu* when referring to the larger components such as *śākhā*, etc. See KM 31, 336ab.

[276] Abhinavagupta's useful terminology is usually adopted by modern scholars. Cf. Lath 1978, 353-6 and Rowell, *ibid.*

[277] Rowell, *ibid.*

2.9 The application of fingering

KSS 31, 48-56; KM 31, 41-8; GOS 31, 41cd-50; BI 31, 48cd-57[278]

2.9.1 Fingering in the *dvikala* state of expansion

The present section describes the *dvikala* state of expansion of the three *tāla* types *tryaśra*, *caturaśra* and *miśra*. In comparison with earlier passages (vv. 25-29ab; 40cd-43) where the description was limited to the *yathākṣara-s*, their type, time syllables and beat syllables, the emphasis here is on essential details such as (1) the application of silent gestures; (2) their demarcation by an additional set of gestures with the fingers and (3) the compulsory occurrence of a *sannipāta* beat at the end.

48	*kaniṣṭhāṅguliniṣkrāmaḥ śamyā caiva tato bhavet*	Om. in K Mss.; *śamyāś* KSS *samyā* KM *śamyā* GOS
	kaniṣṭhānāmikābhyāṃ tu niṣkrāmo 'to vidhīyate	Om. in K Mss.; *kaniṣṭhānāmikābhyāṃ tu* KSS *kaniṣṭhikānāmikābhyāṃ tu* BI; *niṣkrāmau tau* KSS/M *niṣkrāmo 'to* KM
49	*tatas tālas tu kartavyaḥ śamyā caiva tu pañcamī*	Om. in K Mss.; *tatas tālas tu kartavyaḥ* KSS *tataś ca tālaḥ kartavyā* KM {*kartavyaḥ* GOS}
	praveśo madhyamā ṣaṣṭhaḥ[279] *kartavyas tarjanīkṛtaḥ*	Om. in K Mss.; *madhyamāṅguṣṭhe* KSS *madhyamoṅguṣṭhaḥ* M *madhyāṅguṣṭhe* BI *hy aṣṭamo (maḥ ?) ṣaṣṭhaḥ* KM *madhyamā ṣaṣṭhaḥ* GOS
50	*niṣkrāmaḥ, sannipāto 'ntye, nityam aṣṭakalo bhavet*	Om. in K Mss.; *niṣkrāmaḥ sannipāte 'ntye* KSS {*sannipāto 'nte* GOS} *niṣkrāma sannipātānte* KM
	eṣa yugme [280]*kalāpātavikalpo 'ṅgulibhiḥ kṛtaḥ*	Om. in K Mss.; *eṣa yugme kalopeto vikalpāṅgulibhiḥ kṛtaḥ* KSS {*kalāpeta*° M *kalāpātavikalpo 'ṅgulibhiḥ* KM} {*evaṃ yugme* KSS$_2$ (silently)}

---

[278] Cf. translations of Ghosh 1961, 59 f. and E. te Nijenhuis 1970, 348-350.

[279] The KSS version suggests that the thumb (*aṅguṣṭha*) may have been involved, but this is not likely to be the case. If it had indeed played a role in the fingering cheironomy, it would have been mentioned in the parallel descriptions of the other *tāla-s*, as well as in the section on the *āsārita-s* further on where the method of fingering is also described. The reading *aṅguṣṭha* is an obviously wrong reading of *°ṣaṣṭhaḥ* ('sixth'). The latter makes good sense, because as an ordinal, it indicates the relative position of the particular *kalā*. E. te Nijenhuis' conjecture of reading *madhyamā[ṅgulyā]* (p. 348), avoids choosing between *aṅguṣṭha* and *ṣaṣṭha*, thereby ignoring the author's method of sometimes denoting a *kalā* by its ordinal number.

[280] In KSS *eṣa kalopeta* (?) forms the grammatical subject which is qualified by the phrase *vikalpāṅgulibhiḥ kṛtaḥ*. Even though the literal meaning of *kalopeta* is clear, its interpretation is not easy. One could construe the line as follows: "As for the even [*tāla*] this (*eṣa*) [duple state] which is furnished with *kalā-s* (*kalopeta*), is [thus specially] marked with alternate fingers." The phrase 'furnished with *kalā-s*' is not unique to the duple or quadruple states, because the *yathākṣara* forms are also made by *kalā-s*; we have therefore to interpret *kalopeta* in a different way, *viz.* as 'consisting of [more, i.e. a double amount of] *kalā-s*'.

51	*kaniṣṭhāṅguliniṣkrāmaḥ* [281]*prathamā tu kalā bhavet*	Om. in K Mss.; *praveśaś ca tathā* KSS *prathamānukalaṃ* M *prathame tu kalo* KM *prathamā tu kalā* GOS
	[[282]*kaniṣṭhānāmikāsthāne tatas tālas tṛtīyakaḥ*	Om. in KM/GOS/K Mss.
52	*śamyā tālaś caturthī ca niṣkrāmo madhyamākṛtaḥ*	Om. in KM/GOS/K Mss.
	kaniṣṭhāṅguliniṣkrāmaḥ prathamānukulo bhavet]	Om. in KM/GOS/K Mss.
53	*śamyāpāto dvitīyā tu, tṛtīyā tāla eva ca*	Om. in K Mss.; *dvitīye tu, tṛtīye* KSS *dvitīyā ca tṛtīyā* KM {*tu* M}; *tu* KSS *ca* KM
	samyā tatas caturthī tu pañcamī tarjanī kramāt	Om. in K Mss.; *tatra* KSS/KM *tatas* GOS; *tu* KSS *ca* KM
54ab	*ṣaṣṭhaś ca sannipātaḥ syād, eṣa vai ṣaṭkalo vidhiḥ*	Om. in K Mss.; *ṣaṣṭhasya* KSS *ṣaṣṭhaś ca* KM
KM 46	eṣa tryaśre kalāpātavikalpo 'ṅgulibhiḥ kṛtaḥ	Om. in KSS/K Mss.; kalāpāte vikalpo KM kalāpātavikalpo GOS
	kaniṣṭhāṅguliniṣkrāmaḥ, praveśaś ca tato bhavet	Om. in KSS/K Mss.; °niṣkrāme KM niṣkrāmaḥ GOS; tathā KM tato GOS
KM 47	kaniṣṭhānāmikāsthāne, tatas tālas tṛtīyakaḥ	Om. in KSS/K Mss.; °sthāne KM °sthānaṃ GOS; tālo jñeyas tṛtīyake KM tatas tālas tṛtīyakaḥ GOS
	śamyāpātaś caturthī tu niṣkrāmo madhyamākṛtaḥ	Om. in KSS/K Mss.; śamyāpātaś KM śamyā tālaś GOS; syān KM tu GOS
KSS 54cd	*ṣaṣṭhas tālas tato jñeyo, niṣkrāmas tarjanīkṛtaḥ*	Om. in K Mss.; *ṣaṣṭhas tālas tato* KSS *ṣaṣṭhatālas tathā* KM
55	*śamyāṣṭamī tatas, tālo navamī tu kalā smṛtā*	Om. in K Mss.; *tālo* KSS/GOS *tālas* KM
	kaniṣṭhikā praveśas tu daśamī ca kalā bhavet	Om. in K Mss.; *pradeśas* KSS *praveśaṃ* M *praveśas* KM; *ca* KSS *tu* KM
56	*niṣkrāmaś caiva tarjanyā, tadanantaram iṣyate*	Om. in K Mss.; *tarjanyā* KSS/GOS *tarjanyās* KM
	sannipātas tathānte ca kalādvādaśake vidhiḥ	Om. in K Mss.; *tathānte* KSS/GOS *tathāte* KM; °*daśake vidhiḥ* KSS °*daśakaṃ bhavet* KM/BI {°*daśake* GOS}

<48> A [*dvikala*] pattern of eight *kalā-s* should always be rendered [as follows:] [the first *kalā*,] a *niṣkrāma*, [is marked] with the little finger; then there is a *śamyā* [on the second]; after that [the third *kalā*, again] a *niṣkrāma*, is prescribed [to be marked with] the little and the ring fingers; <49> then a *tāla* should be performed [on the fourth], and a *śamyā* [on] the fifth; [after that] the sixth [*kalā*,] a *praveśa*, should be marked with the middle finger, and [the seventh,] a *niṣkrāma*, with the

---

[281] From here onwards till v. 53 the text of the KSS is very confused and unreliable (see following note). The mention of *praveśa* immediately after *niṣkrāma* (KSS) makes no sense, because the series of silent gestures of the *dvikala* yields a series of *ni-pra-* repetitions. The KM and GOS readings, on the other hand, make good sense.

[282] The following three lines (KSS vv. 51cd-52) (which are omitted in the other versions) are not in their proper places, and for that reason, left untranslated in this place. Due to parallel descriptions of the *tryaśra* and *caturaśra tāla-s*, they have obviously been transposed or repeated by confusion. Note the parallelism between vv. 50cd-52ab (KSS) and vv. 46-47 (KM). From the contents, it is clear that KM has preserved the order of text better than the KSS, which has suffered substantial damage. KSS 51cd-52ab is transposed from its original position, namely where KM v. 47 now occurs, whereas KSS 52cd is an unfortunate repetition of 51ab.

index finger; <50> [and] on the last [*i.e.* the eighth *kalā*] there is a *sannipāta*.[283] This is the alteration of *kalā-s* (silent gestures)[284] and *pāta-s* (audible beats) marked with the fingers in the even *tāla*.

<51> [In *dvikala tryaśra tāla*] the first *kalā*, a *niṣkrāma* (gesture), is marked [with] the little finger [...], <53> but [the second is] a *śamyā* beat and the third a *tāla*; then the fourth is a *śamyā*, and in due order the fifth, [a *niṣkrāma*, is marked with] the index finger; <54ab> and the sixth [*kalā* at the end] should be *a sannipāta*. This indeed is the procedure [for the *dvikala* pattern] of six *kalā-s* <KM 46> in the 'uneven' *tāla* (*tryaśra*); the alteration of *kalā-s* [with silent gestures] and with audible beats (*pāta*) is marked with the fingers.[285]

[In *dvikala miśra tāla*] [the first *kalā*,] a *niṣkrāma* (gesture), [is marked] with the little finger, and then [the second,] a *praveśa*, <KM 47> with the little and ring fingers; then a *tāla* forms the third and a *śamyā* beat the fourth; [but the fifth,] a *niṣkrāma*, is marked with the middle finger; <KSS 54cd> then the sixth [*kalā*] should be known to be a *tāla*; [the seventh,] a *niṣkrāma*, is marked with the index finger; <55> then the eighth *kalā* is said to be a *śamyā* and the ninth a *tāla*; but the tenth *kalā*, a *praveśa*, is (marked) with the little finger; <56> and thereafter [the eleventh,] a *niṣkrāma* is required [to be marked] with the index finger, and similarly[286] a *sannipāta* on the final [and twelfth *kalā*]. [This is] the procedure for the *dvikala* pattern of] twelve *kalā-s* [in *tryaśra* or *miśra tāla*].[287]

---

[283] The adverb *nityaṃ* ('always') may relate either to *sannipāta* preceding it, or to *aṣṭakala* following it. The first alternative emphasises that there is *always* a *sannipāta* on the final *kalā*, and the second that the *aṣṭakala* is *always* performed according to the procedure described above. The former interpretation is corroborated by the two following passages where each pattern is indeed concluded with a *sannipāta*. The second alternative is self-evident because a rule usually takes effect from the moment it is laid down, unless provided otherwise. Since both interpretations are of equal force, we let the caesura, which often acts as a syntactical pause in the NŚ, decide the issue here, that means in favor of the second interpretation.

[284] According to this interpretation, the word *kalā* is made almost equivalent to the 'silent gestures'. Music-historically this interpretation is somewhat problematic because *kalā* in this meaning is normally not attested to in the NŚ, but only in the Datt. and other later sources. We may perhaps consider the interpretation offered above in n. 280.

[285] For the interpretation of this line, see n.280.

[286] *Tathā ca* refers to the common occurrence of a *sannipāta* beat at the end of any expanded pattern as could be seen in the preceding two examples. See further n. 280.

[287] Ghosh's translation of these paragraphs [see Transl., pp. 59-60, vv. 48-57] is problematic. Not realizing that audible gestures did not require additional markings with the fingers, he translates as if the audible beats were also marked with the fingers of the preceding silent gesture. This may best be illustrated by quoting some lines from his translation. As to the *dvikala caturaśra* he writes that "by the little finger the Niṣkrāma and the Śamyā, by the little finger and the ring finger, the Niṣkrāma, the Tāla and the Śamyā, by the middle finger the Praveśa, and by the fore finger are shown the Niṣkrāma and the Sannipāta...". Since *kalā-s* and *pāta-s* are juxtaposed in the nominative case, they may falsely appear to be connected by copulatives like *ca*(*iva*), *tu*, etc. Ghosh has apparently interpreted them as forming a composite object that is marked with one or two fingers. He overlooked the profuse occurrence of indeclinables like *tatas* which clearly mark the sequence of separate actions, namely that of a *kalā* or *pāta* after the completion of the other. E. te Nijenhuis (1970, 348) and the so-called Board of Scholars (n. d., p. 419, vv. 49-53), who closely follow Ghosh, contain more or less the same mistakes. M. Lath, on the other hand, accurately interpreted the system as can be seen from his translation of the same fragment (1978, 332, n. 2).

2.9.2 Fingering in the *catuṣkala* of expansion

KSS 31, 57; KM 31, 49cd-50ab; GOS 31, 51-2; BI 31, 58-59[288]

The rules for the formation of the *catuṣkala* state - occurring immediately after a detailed exposition of the *dvikala* patterns, are strikingly brief and elliptical (v. 57). They contain a formulaic direction about the way the quartet of silent gestures in the *catuṣkala* state (i.e. *āvāpa-niṣkrāma-vikṣepa-praveśa*) should be derived from the duet employed in *dvikala* (i.e. *āvāpa-vikṣepa*). Then follow laconic references to two important metrical terms, viz. *pādabhāga* and *mātrā*. These are new metrical units, which, like *kalā*, are specially defined for *tāla* time measurement. A *pādabhāga* consists of a number of *kalā-s*, and a *mātrā* of a number of *pādabhāga-s*. On the correlation between *kalā*, *mātrā* and *pādabhāga* see further below, introduction to section 6.2 and §§ 6.5.3.6 f.

KSS 57	*eṣa tv āvāpavikṣepavyavadhānena paṇḍitaiḥ*	Om. in K Mss.; *eṣa tv āvāpavikṣepavyavadhānena* KSS/GOS/BI {*°vyavasāyena* M} *eṣato vātavikṣepavyavadhānaś ca* KM
	vidhiś catuṣkalo jñeyaḥ prāguktāṅgulibhiḥ kṛtaḥ	Om. in K Mss.
KM 49cd	dvikalaś catuṣkalaś ca pādabhāgaḥ prakīrtitaḥ	Om. in KSS/K Mss.; 'Ra' Vipulā
KM 50ab	catvāraḥ pādabhāgāś ca mātreti [289]paricodyate	Om. in KSS/K Mss.; ca mātre (?) hi parināṭyate KM tu mātreti paricodyate GOS ca matreti paribhāṣyate BI (*silently*)

<57> However, the experts should know that this [same *dvikala* procedure][290] along with the insertion[291] of *āvāpa* and *vikṣepa*, is the *catuṣkala* procedure that is marked with the [same] fingers mentioned above [with respect to *dvikala*].

<KM 49cd> A *pādabhāga* is said to consists of two and four *kalā-s* <KM 50ab> and it [further] is authoritatively stated that [three,] four [or six] *pādabhāga-s* constitute a *mātrā*.

---

[288] Cf. translations of Ghosh 1961, 60 and E. te Nijenhuis 1970, 323 ff.

[289] Modern scholars usually accept the conjectural emendation *paribhāṣyate* suggested by the BI ed. But the latter has apparently adopted this reading from Dattila, who offers a similar definition of *pādabhāga* (Datt. 131 ab *pādabhāgāṃś caturbhis tair mātreti paribhāṣyate*). Even though *pari-* √ *bhāṣ* 'to teach, define' makes good sense in the given context it is not supported by any of the available NŚ manuscripts. *Pari-naṭ* (from √ *naṭ*) 'to act/represent dramatically' in KSS is indeed difficult to construe here, unless one confines its meaning to the verbal aspect of representation. When something is represented verbally, it is, in fact, conveyed by speech. However, since the combination with the *pari* prefix is not attested to, the root *pari-* √ *cud* 'to urge, impel, exhort' in GOS (*paricodyate*) remains the best alternative.

[290] The text only reads 'this' (*eṣa*), which we may interpret as a deictic reference to the *dvikala* state and its cheironomy treated in the preceding section.

[291] Literally, the word *vyavadhāna* expresses the idea of 'intervention' or 'insertion'. It explains the idea of structural expansion, in this case how the *catuṣkala* structures are derived from their *dvikala* forms. The typical series of four silent gestures in *catuṣkala* (i.e. *āvāpa-niṣkrāma-vikṣepa-praveśa*) is obtained by inserting the gestures that are characteristic for *catuṣkala* (i.e. *āvāpa-vikṣepa*) between those of the *dvikala* (i.e. *niṣkrāma* and *praveśa*). The idea of 'insertion' does not fully explain the occurrence of an *āvāpa* at the beginning of a *catuṣkala* pattern because, in fact, it is 'prefixed' there. Cf. Lath's explanation of *vyavadhāna* (1988, 148 f.).

2.10 Conclusion of NŚ 31, 1-58

KSS 31, 58 ; KM 31, 50cd-1ab; GOS 31, 53-4; BI 31, 60-1[292]

The author now winds up this part of the *tāla* chapter with a brief summary of its subject-matter, viz. the five standard *tāla* measures and their variations.

KM 50cd	[293]cañcatpuṭasya tālasya tathā cācapuṭasya ca	Om. in KSS/K mss.; cañcupuṭasya KM cācapuṭasya GOS; cf. KSS 43ab
KM 51ab	pañcapāṇeś ca vijñeyā bhedā hy ete pṛthak pṛthak	Om. in KSS/K mss.; pañcabāṇaiś KM pañcapāṇeś GOS; cf. KSS 43cd
KSS 58	*evam eṣa*[294] *mayā tālaḥ samāsāt parikīrtitaḥ*	*evam eva mayā tāla* KSS *evaṃ eṣa mayā tālaṃ* KM/M} *kalātālaḥ* GOS}; *parikīrtitaḥ* KSS/KM *samudāhṛtaḥ* GOS {*°dāhṛtam* M}
	āsārite vardhamāne gītāṅgeṣu ca ya smṛtaḥ	'Ra' Vipulā; *āsārite* KSS *āsādite* M; *gītāṅgeṣu ca* KSS {*ca* om. in M} *gīteṣu api hi* GOS/KM *gītakeṣu* (*ca*) A. bhā.

<KM 50cd f.> Each of these variations [i.e., the three states of expansions] should be known to apply to *cañcatpuṭa*, *cācapuṭa* and *pañcapāṇi tāla-s*.

<KSS 58> Thus have I briefly taught *tāla* as it is known [to be applied] in the *āsārita* and *vardhamāna* [songs] and the limbs of [other] songs.

Thus ends the first part of the *tāla* chapter that focuses on the introduction of the five standard *tāla* measures and their variations or expansions. As far as the NŚ is concerned, these *tāla-s* and their variations (or expanded forms) are never applied independently, but only as constituent elements (*aṅga*) or as parts of larger limbs employed in numerous musical forms. In other words, they occur as structural components (*aṅga*) of the musical compositions and are known as *vastu*, *pāda*, *śākhā/pratiśākhā*, etc. On the notion of *aṅga*, see further § 2.8.1, above.

The remaining part of the *tāla* chapter describes numerous musical compositions such as the *āsāritā-s*, *vardhamāna-s* and *gītaka-s*, which are made up of these and many other structural components.

---

[292] Cf. translation of Ghosh 1961, 60.

[293] The following two lines in KM occurred earlier in KSS as v. 43.

[294] Emendation supported by Ms. M and pronominal agreement with the correlative *ya* in the following line.

PART II

Analysis of the *tāla* system

3. Etymology and meaning of *tāla*

3.1 Etymological derivations

Tāla is a well-known word in sciences such as botany, iconometry, architecture and the performing arts. However, the obscurities surrounding its phonetic and semantic development merit a closer study. The word occurs for the first time in classical literature (epics, *kāvya*, etc.), but attempts have been made to trace its origin to the Veda-s and even to Indo-European.[295] Our prime concern is of course restricted to the meanings of *tāla* in the performing arts in general, and music in particular as attested to by the NŚ. For this reason I confine myself to a brief discussion of the main theories about the derivations and etymologies of the word *tāla* in general, followed by an investigation into its musicological meanings.

The rich variety of meanings recorded by the dictionaries[296] ranges from the Palmyra tree or fan-palm (Borassus flabelliformis; cf. *tāla-patra*, *bṛhat-tāla*), a lock or bolt (cf. Hindī *tālā*), the lower region or hell (cf. *pātāla*), to even the name of an Upaniṣad (*tālopaniṣad*), etc.[297] Of particular interest are its meanings of a standard measure of (1) length and height or (2) of motion. Some examples of the first category are the trochee (in prosody), the hand-span (measured by the thumb and the middle finger, cf. *navatālapramāṇa* in iconometry) and the span of two feet in dance, and of the second, the flapping of an elephant's ears (*karāsphāla*) and the slapping or clapping of the hands together (cf. *tālī*, *tālikā*). What is most striking is that in musicology the notions of measure as well of movement are transferred to eponymous cymbals (s.v. *kāṃsya-tāla*, *kara-tāla*, etc.).

A rather popular meaning of *tāla* that should be considered here is that of the 'palm of the hand'. Since this meaning persists in later clarifications of *tāla* - both lexical as well as musicological - it is necessary to examine whether there is a theoretical basis for this explanation. As a matter of fact, the earliest Sanskrit lexicons in the West register this meaning, but mark it as belonging to the category of words or meanings that are not attested to in literature, but only in 'native lexicons'.[298] Some relatively late indigenous lexicons indeed record *tāla* in the sense of *karatala*,[299] and obviously depending on them the etymologist C. C. Uhlenbeck (1898) too relates *tāla* (m.) to *tala* (n.) 'fläche/handfläche/fusssohle'.[300] However, not all lexicographers follow suit,[301] while some etymologists straightforwardly dismiss such a derivation as popular etymology[302] and explain that *tālaḥ* (m.) in the unattested sense of 'Handfläche' may well have been construed because of the etymology alone.

---

[295] Lewis Rowell (1992, 190) observes that the word *tāla* is unrelated to Latin *talea*, which means a 'cutting' (of a plant) or a 'bar' (of a metal). Despite resemblances with the musical and rhythmical meanings of *tāla*, Rowell rejects any relationship, arguing that "in the musical terminology of medieval Europe *talea* is a technical term for a rhythmic pattern that was superimposed upon a preexisting plainsong melody and repeated over and over as the rhythmic framework for a composition." He further explains these similarities with the cyclical *tāla-s* of later Indian musical practice, as "one of those coincidences which we always ought to suspect; but it seems to be nothing more than a coincidence." (*ibid.*)

[296] Cf. St. Petersburg's Sanskrit-Wörterbuch s.v. *tāla*, Vol. III, pp. 312 ff. and the MW Dict. pp. 444 f.

[297] See also M. Mayrhofer KEWA Band I 1956, 498; Rhys Davids 1921, 300 (s.v. *tāḷa*); and R. L. Turner 1966, 327.

After refuting Uhlenbeck's association of *tāla* with *tala*, F. B. J. Kuiper suggests that the meaning 'clapping' of the word *tāla*, should rather be traced back to that of 'beating' like for example in Nīlakaṇṭha's explanation of *tāla* (in Mahābhārata 4, 54, 26) as *karāsphāla* 'the clapping of the hands' or 'the flapping motion of an elephant's ears' (cf. MW Dict. p. 161). However, a phonological clarification of the word came in view only when he connected a number of words from Neryosang's Yasna-translation (12th century) [*i.e. ṭālayati* 'er schlägt' (IX, 77), *ṭālakāḥ* 'die schlagenden' (IX, 68) and *ṭālanā* 'das Schlagen' (I, 19)][303] to *tāḍayati*. Kuiper then suggests that the underlying root here is apparently *taḍ* 'to beat/strike/punish', which allows one to relate it to musical terms such as *talavá* 'musician',[304] *ghaṇṭā-tāḍa* 'who strikes a bell', *tāla-mardaka(°dala)* 'a cymbal', *tāḍayati* 'he/she strikes a musical instrument', etc.[305] It should however be noted that *inter alia* the etymology of *talavá* is far from being clear.[306]

---

[298] The MW Dict. (pp. 444 col. 1) indicates this situation by the abbreviation 'L' (for 'lexicographers') after the entry '(=*tala*) the palm (of the hand).' The St. Petersburg's Sanskrit-Wörterbuch (*Ibid.* p. 313, 1-h) mentions '*Handfläche* (vgl. *tala*)' along with a reference to Hemacandra's Abhidhānacintāmaṇi (v. 596) and the Viśvamedinī lexicons.

[299] See, for example, Viśvamedinī (*tālaḥ karatale 'ṅguṣṭhamadhyamābhyāṃ ca samite | gītakālakriyāmāne, karasphāle, drumāntare | vādyabhāṇḍe ca kāṃsyasya, tsarau, tālī jaṭauṣadhau | klībaṃ tu haritāle syāt*) and Hemacandra's Abhidhānacintāmaṇi (*tālaḥ kālakriyāmāne, hastamānadrumabhedayoḥ | karāspoṭe karatale, haritāle, tsarāv api*). See also how the Vyākhyāsudhā (on Amarakoṣa 2, 6, 140) explains *tālavṛntakam* 'fan': *tālasyeva vṛntam asya | tāle karatale vṛntam iva bandhanam asya* '*Tālavṛntaka* means what has a fan like the palm of the hand (*tāla*), i.e. what has a joint like the palm of the hand (*tāla = karatala*).'

[300] C. C. Uhlenbeck 1898, 112.

[301] Cf. C. Cappeller 1891, 202; Rhys Davids 1921-5, 300 (s.v. *tāḷa*); and Klaus Mylius, *Wörterbuch Sanskrit Deutsh*. Leipzig 1987, 184. An exception is, for example, V.P. Apte 1965, 473 col. 2. See also Cappeller *op. cit.*, p. 200 s.v. *tala* 'often corresponding to a more special word, as *pāṇitala* palm of the hand.'

[302] See F. B. J. Kuiper 1931, 250 f. and M. Mayrhofer, *KEWA*. Band I 1956, 498.

[303] For the cerebralisation of the initial dental, Kuiper (*ibid.*) refers to Wackernagel, *Altindische Grammatik*, Band I, Nachträge 1896, 172 and J. Bloch, *Langue Marathe*, 124 and 'Pre-Aryan and Pre-Dravidian' in *Indian*, Calcutta 1929, 40.

[304] See Vājasaneyi Saṃhitā 30, 20cd *tān mahase vīṇāvādaṃ, pāṇighnaṃ, tūṇavadhmaṃ; tān nṛttāyānandāya talavam.* See also part of Mahīdhara's comment: *tān evāha | vīṇāvādaṃ, pāṇighnaṃ hastatālavādakaṃ, tūṇavadhmaṃ; tān trīn nṛttāya ālabhate, ānandāya talavam vā gatigandhanayoḥ gandhanam hiṃsā talaṃ hastāditalaṃ vāti vādyamukhaṃ hanti, sa talavas taṃ vādyavādakam.*

[305] For a reconstruction of the Indo-European root **tel* 'schlagen' see Kuiper *ibid.*, p. 251 and A. Walde 1927, Vol. I, p. 741.

[306] Mayrhofer (KEWA I, p. 498) explains: "Dass das Wort mit *taḍ-* „ein musikalisches Instrument schlagen'' (*tāḍáyati*) zusammengehöre, lässt sich nicht erweisen. Dass unbel. *talaḥ* m. „Anschlagen der Saiten mit der linker Hand'' ist vielleicht der Etymologie zuliebe erfunden." Mahīdhara (see above n. 304), however, explains *talavá* as one who strikes (*vāti = hanti*) the palms of the hand (*talaṃ = hastāditalaṃ*) on the surface of an instrument or drum (*vādyamukhaṃ*).

The word *tāla* as such emerges for the first time in the epics (Rāmāyaṇa and Mahābhārata) where it already has musical meanings, such as the clapping of the hands or sticks during music and dance.[307] Even Pāṇini appears to mention artisans or perhaps artists that could well have been *tāla* cheironomists, viz. *pāṇigha* and *tāḍagha* 'who strikes his/her hands (*pāṇi*/*tāḷa*)'.[308] The only lead to trace its occurrence in pre-classical Sanskrit literature is through the forms of *taḍa-/tāḍa*. Accordingly, a number of scholars have tried to derive the word from *taḍ* (*taḍa-/tāḍa-*).[309] From the early period there are only few occurrences. The examples encountered in the Ṛgveda, e.g. *taḷít* (1, 94, 7), *taḷito* (2, 23, 9c) and *ví tāḷhi* (10, 180, 2), seem to comply fully with the general rule of assimilation of the intervocalic *-ḍ-* to *-ḷ-*, whereas those from the following period retain the retroflex (e.g. *tāḍa* AV 19, 32, 2). The fully dentalized forms are attested to first by the mass of examples from the epics.[310]

Scholars have tried to relate the Ṛgvedic forms with *taḍa-/tāḍa*, yet without much conviction. There is great dissension especially with respect to the etymology.[311] In fact, this dissension already existed in the times of Yāska and his contemporaries.[312] This means that the notion of tracing the origin of the word *tāla* to the Ṛgveda should be regarded as unproved. In other words, the lower limit of its origin should be pushed up towards the AV and Purāṇa-s where a number of forms are encountered which are recognisably related to the root *taḍ*.[313]

The fact that Sanskrit *tāla* and other Indo-Aryan forms such as, for example, Pāli *tāḷa*, Prākrit *tāla/tāḍa°*, etc., are often related to their corresponding forms in Tamil *tāḷi/tāḷai/tālam/taṭṭu*, Kannada *tāṟ/tāḷi/tāḍi* Telegu *tāḍu*, etc., takes us to the issue whether it should be considered a

---

[307] The cheironomist was known by various names such as *tālāpacara* (Rām. 2, 3, 17), *tālāvacara(ṇa)* (Rām. 7, 91, 15), *pāṇidhvanika* (Mbh. 7, 75, 2), *pāṇisvanin* (Mbh. 12, 48, 3-6), and so on. The word *tāla* had evidently not yet obtained the meaning of cymbals, etc. See further § 4.2.

[308] Cf. Pāṇinīya Aṣṭādhyāya 3, 2, 55 *pāṇigha-tāḍaghau śilpini*.

[309] Cf. Mayrhofer KEWA I, p. 498 and EWA p. 60 s.v. *tāḍa*; T. Burrow 1973, 383; Kuiper 193, 151 and R. L. Turner 1966, 330.

[310] Cf. Mahābhārata (Poona edn.): *talatālāṃś ca vādayan* (3. App. 18. 12 post), *tālalāsyasamanvitam* (7. 57. 37b), *tālagītasvano mahān* (7. 61. 17b), etc.

[311] There have been various attempts to relate these forms to e.g. *tard-* (*tṛṇátti*, perf. *tatárda*) 'pierce' (Bartholomae), *tar-h-* (*tṛṇédhi*) (Bartholomae, J. Smidt, H. Brugmann), and even to Swedish *stulta* 'stilt/Stelze' (K. F. Johansson and Uhlenbeck), but all were met with criticism. Since Mayrhofer could not relate it to Indo-European or accept a Dravidian origin he concludes that it is 'Etymologisch nicht klar.' For the references see K. F. Johansson, 'Sanskritische Etymologien' *Indogermanische Forschungen* II Strassburg 1893, 21; Kuiper 1931; Mayrhofer KEWA I, p. 493 and EWA p. 640.

As to *ví tāḷhi* Mayrhofer (KEWA I, p. 492; EWA I p. 612 f.) relates it to *ví-√ takṣ-* 'enthaupten', and not to *ví √ taḍ* 'dash to pieces!' like, for example, Sāyaṇa (on ṚV 10, 180, 2 *viśeṣeṇa tāḍaya, vināśayety arthaḥ*) and Monier-Williams (MW Dict. p. 962) who records the imperatives *vi-tāḍhi* and *vi-tāḷhi* as variants of *vi-taḍḍhi*. According to Whitney this example shows a loss of the final retroflex after assimilation of the dental, and compensatory lengthening (1889, 67, § 189 c).

[312] Yāska explains these two occurrences (ṚV 1, 94, 7ab *yo ... dūre cit san taḷit iva ati rocase*; 2, 23, 9c *yā no dūre taḷito yāḥ arātayaḥ*) at one place (Nirukta, 3, 10-11). According to him *taḷit* indicates proximity or nearness: *dūre 'pi sann antike iva sandṛśyasa iti* (on 1, 94, 7ab) and *taḷito yāś ca - antike arātayo* (on 2, 23, 9c). Aside from the primary meanings 'proximity' and 'slaying' (*antika* and *vadha*), Yāska also takes notice of the special meaning 'lightning that strikes' as accepted by some other authority (i.e. Śākapūṇi) (*taḍit ity antikavadhayoḥ saṃsṛṣṭakarma tāḍayatīti sataḥ ... vidyut taḍid bhavatīti śākapūṇiḥ | sā hy avatāḍayati, dūrāt ca dṛśyate*). Sāyaṇa, however, prefers the first meaning. See further Mayrhofer KEWA I, p. 470.

[313] Cf. perf. *tatāḍa* Bhāgavata Purāṇa 6, 12, 4.

Dravidian loanword[314] or an Indo-Aryan word. The cerebral in *tāḍa°* does not decide the issue because, though words have indeed been introduced into Sanskrit which have cerebrals in them, there are also Aryan words where cerebrals of Dravidian have crept in under favourable circumstances.[315]

According to Mayrhofer (KEWA I, p. 498) the Indo-Aryan forms of *tāla* 'Palmyra' (Pali *tāḷa°*, Prākrit *tāḍa*, Hindī *tāṛ°*) seems to indicate an original *-ḍ-*; he therefore rejects a connection with Latin *tālea* 'Setzling', etc. (against Walde-Pokorny I 705, Walde-Hofmann II 643), and suggests that *tāla* may better be related to synonymous Dravidian words such as Kannada *tāṛ* and Telegu *tāḍu*. Ramaswami Aiyar, on the other hand, who studied the Dravidic names for palms,[316] seems to occupy an intermediate position in the etymology, because according to him the word is of Indo-European origin, but the cerebral *-ḷ-* due to Dravidian influence. But Mayrhofer rejects this position as 'unbeweisbar' (*ibid.*). This seems to suggest that Mayrhofer did not confer an Indo-European origin to it.

Nevertheless, when the root *taḍ* is assumed as the probable origin of the word *tāla*, we discern the following phases in its development, characterised by (1) the Vedic assimilation from intervocalic *-ḍ-* to the retroflex *-ḷ-* or *-ḷh-*[317] and (2) the ultimate dentalization of the latter to *-l-* in the classical period. On the other hand, F. Edgerton registers a number of 'etymologically obscure' words in Buddhist Hybrid Sanskrit (*tāḍa* among them) where the 'domal *ḍ* is written for normal intervocalic Skt. *l.*'; the regular Pali change of intervocalic *ḍ* to (domal) *l* is thus reversed. Edgerton then draws the conclusion that 'there is nothing to disprove a suggestion that *ḍ* was more original than *l* in them.' (BHSGD I, p. 18 § 2.46).

The application of *taḍ/tāḍa°* in musical contexts is significant and its introduction seems to be marked with an equally significant shift of verbs. In the Vedic period the root *han* 'to strike' is occasionally used in the context of drumming,[318] but in the epics and onwards we also find occasions where the root *taḍ* is employed with the same meaning there instead (e.g. Mbh. 13, 14, 33 *dundubhiḥ ... tāḍayata*; 14, 85, 37 *dundubhiḥ ... atāḍayata*).[319]

We may conclude that at the time when musical notions were developing, if not already developed, a more technical term or verb emerged to denote the playing or stirring of drums. In other words, the ordinary and common term for beating (*han*) came to be replaced by derivations of *tāḍa*. Ultimately the word *tāla* seems to have been obtained by dentalization of the retroflex *-ḍ-* to *-ḷ-* and later to *-l-*.

3.2 Popular etymologies and explanations of *tāla*

From the medieval period onwards, *tāla* is usually derived from the root *tal* through the intermediate form *tala*. The noun *tala* denotes a 'surface', 'level', 'base', 'bottom', 'the palm (of the hand)', 'the sole (of the foot)', etc. The cognate idea of a firm 'ground' or 'support'

---

[314] Cf. T. Burrow, *op. cit.*, p. 383.

[315] Jules Bloch, BSOAS 5 (1928-30), p. 737. See also Burrow, *op. cit.*, p. 374 ff.

[316] L. V. Ramaswami Aiyar, 'Dravidic Names for Palms'. *The Journal of the Bihar and Orissa Research Society*. Vol. XVII, Patna 1931, 216-24.

[317] See Withney 1889, § 54 and 198 c.

[318] Cf. Ṛgveda 1, 28, 5; 6, 47, 29-31; 10, 146, 2 *āghāṭi* 'drummer' (see further, section 5.2 below); AV 20, 132, 9 *dundubhiṃ hanat*; ŚB 5, 1, 5, 6 *dundubhyāghāta*; TB 1, 3, 6, 2 *dundubhint samāghnanti*.

[319] I draw these references and text-examples from P. Thieme, 'Merkwürdige indische Worte.' *Kleine Schriften* II 1995, 183.

(*pratiṣṭhā/āśraya*) was skilfully adapted to the rhythmic notion of *tāla*, namely as the basis or support for the performing arts. Etymologically there is no problem in deriving *tāla* from *tala*; on the contrary, the latter can even be traced back to Sanskrit roots with cognate meanings. In his list of roots Pāṇiṇī explains *tal* as meaning 'to support/stand firm' (Dhātupāṭha 10, 58 *tala pratiṣṭhāyām*). To the best of my knowledge Abhinavagupta (11th century) has been the first to relate *tāla* to *tal*, but his version of the Dhātupāṭha appears to have contained a different reading: *tala pratiṣṭhākaraṇe* (A.Bhā. IV, pp. 7. 19; 151. 12).[320] He appears to take the word *karaṇa* in the *sūtra* in a causative sense, apparently to account for all factors such as the divisions of action, time and the clashing of cymbals, which are instrumental to the preparation of a firm rhythmic ground.[321] Śārṅgadeva (13th century), who often follows Abhinavagupta, also interprets *tāla* as a firm base for the performing arts. He explains the word '*tāla*' as the strengthened (augmented) form of the root '*tal*' meaning 'to support' (*tālayati*) and that accordingly singing, (instrumental) music and dance are based on *tāla*.[322]

As regards the idea of connecting *tāla* with *tala* 'the palm of the hand', the evidence from the early period is indeed scanty and therefore negligible. Most of the late Sanskrit lexicons equate these terms (see above, n. 299) and, as pointed out earlier, Uhlenbeck's attempt to do the same, was obviously based on those lexicons. The earliest direct reference is again provided by Abhinavagupta. He reports that according to another current etymological explanation the word *tāla* means 'what has originated from the palms of the hands (*tala*)' (A.Bhā. p. 152. 8 *tale bhavas tāla ity api niruktam uktam*).[323] Even though one may detect some flavour of popular etymology here, it can hardly be denied that when *tāla* is treated as a *taddhita*, that is a noun derived from another noun, it can easily be traced back to *tala* (by de-augmentation). It seems that according to this view, the palm of the hand constitutes the most important factor in beating time; the association with the palm of the hand (*talayoga*) had to be implied not only because the measuring instruments (*i.e.* the hands and cymbals) are related to beating time (*tāla*), but also because they are called *tāla* due to their nature of supporting (the performance).[324] Since this same function was also transferred to the performance of cymbals, one can infer that the application of the latter in ancient Indian music was nothing more but auxiliary to the meticulous practice of cheironomy. Also notable here is that for the first time a skilful attempt is made to synthesize the three aspects of measuring, clapping and supporting.

---

[320] Böhtlingk seems to consider it an alternative reading and places it between brackets next to the 'original' *sūtra*. Another variant cited sometimes by commentators is *tala pratiṣṭhā-karaṇayoḥ*. Cf. the Vyākhyāsudhā comm. (on Amarakoṣa) p. 74; see further pp. 170, 231 f., 336, etc.

[321] Although the text here is highly defective, this seems to be the purport of the following passage, A.Bhā. IV, p. 151. 12-20 *tala pratiṣṭhākaraṇa iti* [...] *pratiṣṭhānaviśeṣeṇa yat pratiṣṭhānasampādanaṃ tatra hetu kriyākhaṇḍas tāla iti tātparyam* | *tatra ca ghanātodyam atiricyata iti.*

[322] SR 5, 2 *tālas, talapratiṣṭhāyām iti dhātor ghañi smṛtaḥ* | *gītaṃ, vādyaṃ, tathā nṛttaṃ yatas tāle pratiṣṭhitam*. Cf. Kalānidhi (on SR 5, 1) *tūryatrayādhiṣṭhānabhūtaṃ tālaṃ*. See further Saṅgītopaniṣatsāroddhāra 2, 5-6 *gītaṃ vādyaṃ tathā nṛtyaṃ tālavarjaṃ na śobhate* | *tālābhāvān na melaḥ syād, amelād avyavasthitiḥ* || *na raṅgam avyavasthāto vinā raṅgaṃ kuto layaḥ* | *layaṃ vinā 'saukhyaṃ syāt tanmūlaṃ tāla ucyate*; S. Rāja 3, 3, 1, 2ab *nanu pratiṣṭhitaṃ samyak saṅgītaṃ tāla eva yat*; Harināyaka's Tālārṇava v. 3 *tālayaty eṣa saṅgītaṃ yaḥ sa tālo nigadyate* | *iti tālayati pratiṣṭhāpayati* | *taladhātuḥ pratiṣṭhāyāṃ.*

[323] See also A.Bhā. p. 167 ll. 15 ff.

[324] This seems to be the purport of the following passage (A.Bhā. p. 152. 6-8): [...] [1]*mānavādyasya tālena yoga ity āśayaḥ* | *teṣāṃ tathāpi pratiṣṭhārūpatvāt tālavyapadeśaḥ* | *ata eva* [2]*talayogo 'bhivyaṅgyaḥ* | ***tale bhavas tāla ity api niruktam uktam*** | *yena pradhānenaiva* |

[[1]*gāna°* GOS *māna°* GOML ms.; [2]*tālayogo* GOS [2]*talayor nābhivyaṅgyaḥ* GOML ms.]

In another passage where Abhinavagupta occasionally touches upon the etymology of the term *pañcapāṇi* (*i.e.* the name of one of the five basic metrical patterns in the ancient system of rhythmic organisation), he gives a similar but popular turn to it. There seem to have been certain authorities who explained the word *tāla* also as 'something that originates from the palm of the hands' (*tale bhavati*) because it divides [time] with the palm of the hands.[325] Abhinavagupta further corroborates this view by citing a verse from the Dattilam where, according to some experts, *tāla* indeed appears to be identified with *pāṇi*, 'hand'.[326]

In the later period the etymological obscurity surrounding the word *tāla* is further aggravated with the emergence of more popular etymologies that play upon the representative value of initial syllables. First, *bharata*, the general word for 'actor', is popularly interpreted as denoting theatre in its comprehensive form and its three syllables as representing its main constituent parts. *Bha* allegedly stands for *bhāva* 'acting and dance', *ra* for *rāga* 'melody or music' and *ta* for *tāla* 'rhythm'.[327] The inclusion of *tāla* reflects the undisputed position rhythm used to occupy in theatre.

Similarly, though less convincingly, the word *tāla* is also interpreted as a 'compound' word that symbolically refers to the combined form of two different entities represented by their initial syllables. In the context of dance we learn that in common parlance the word *tāla* is known [as a compound] that is obtained when *tā°*, the first syllable of *tāṇḍava*, the 'robust dance of Śiva', meets the syllable *°la* of *lāsya*, the 'delicate dance of Parvartī'.[328] Even though it is not attested to anywhere in the literature that *tāla* stands for dance or its comprehensive form which combines *tāṇḍava* and *lāsya*, the indirect identification of *tāla* with dance not only underscores the fundamental dependence of the latter on the former, but also infuses the dry *tāla* theory with a dose of basic Śaiva cosmology.

The two primal forms of dance, *tāṇḍava* and *lāsya*, are traditionally associated with their progenitors and exponents, *viz.* the divine pair Śiva and Śakti (= Pārvatī) respectively.[329] In the context of *tāla* these deities are now associated with the pair of cymbals; the one held in the left hand is called Śakti and the other in the right hand Śiva.[330] The choice of names is not accidental, because they are derived from the deities that are said to reside in their eponymous cymbal.[331] Śiva is further said to have a strong and deep sound, whereas Śakti has a weak and light sound.[332]

---

[325] A.Bhā. p. 162. [...] [1]*pañcapāṇir iti hi tālaḥ* | *tathā hi karatalaparicchedarūpatvāt tale bhavatīty api tālaśabdaḥ kaiścin niruktaḥ* | [[1]*pañcapāṇir* GOS *pañca pañcapāṇir* GOML ms.]

[326] Ibid. .... *dattilo 'py āha - 'tatra tālaṃ ca pāṇiṃ ca prāhur ekaṃ* (cf. Datt. 153ab). See also *op. cit.*, p. 284. 22 f. It should however be noted that at least in the NŚ these two notions are not identified. *Pāṇi* rarther represents the process of the synchronisation in the *tāla* system. See further L. Rowell (1992, 191-3, 249, 318 f., 383) and M. Lath (1988, 160 f.).

[327] Cf. Nāṭyasarvasvadīpikā 1, 1, 10 *bhakāro bhāva-saṃyukto, repho rāgāśrito 'tra hi* | *takāras tāla-sahitas tasmād 'bharata' ucyate.*

[328] Cf. a verse from the Saṅgītārṇava cited by A. K. Sen (1973, 74): *tāṇḍavasyādyavarṇena lakāro lāsyasya śabdabhāg* | *yadā saṃgacchate loke, tadā tālaḥ prakīrtitaḥ.*

[329] See, e.g., KSS 4, 243cd f. *recakair aṅgahārairś ca nṛtyantaṃ vīkṣya śaṃkaram* | *sukumāraprayogeṇa nṛtyati sma ca pārvatī*; KM 4, 317-8 *devastutyāśrayakṛtaṃ yad aṅgaṃ tu bhaved atha* | *māheśvarair aṅgahārair uddhatais tat prayojayet* || *yat tu śṛṅgārasaṃbaddhaṃ gānaṃ strīpuruṣāśrayam* | *devīkṛtair aṅgahārair lalitais tat prayojayet* ||

[330] Cf. SR 6, 1179cd *vāmena dhārayec cchaktiṃ, śivaṃ dakṣiṇapāṇinā.*

[331] Cf. SR 6, 1180cd *devatā tumbarur yugme, śaktiḥ śaktau, śive śivaḥ*. Note that Tumburu, the celestial musician (*gandharva*) is said to reside in both the cymbals.

[332] Cf. SR 6, 1178cd f. *alpanādo bhavec cktir, bhūrinādaḥ śivo bhavet* || *śive snigdhe ghano nādaḥ, śaktau syāt tad viparyayaḥ.*

The reason for associating the deities with the instruments was thus obviously meant to confer a cosmic dimension to their performance: the deities not only reside in the pair of cymbals, but also indeed imbue it with their creative powers. This suggests that just as the union of Śiva and Śakti releases the prime creative forces of the universe, the union of their representative syllables similarly discharges *tāla*. First, this may be interpreted literally, because when *ta* and *la* conjoin, *i.e.* when the pair of cymbals are clashed, one may admit hearing the onomatopoeic sound '*tāla*'.[333] Second, *tāla* does not just represent a sound, but also symbolises *nāda* - the divine sound (*nādabrahma*) and source of the universe of sounds. Thus when the cymbals clash, meaning when the abiding deities as well as their forces unite, the cosmic process of creation is activated with the manifestation of *nāda* sound such as '*khaṭ*', '*paṭ*', '*chaṭ*', etc.[334] The sequence of meaningless syllables implies that creation proceeds from meaningless towards meaningful sounds, and from unmanifest towards manifest forms. See further § 8.4, below.

3.3 Meanings of *tāla* in musicological sources

Apart from the common or general meanings discussed in the preceding sections, there is also a wide spectrum of musicological meanings of the word *tāla*, most of which are still unrecorded in modern lexicons. I have counted at least thirteen, each of them referring to a different, but eponymous notion. It has to be observed that the NŚ does not define these meanings; they usually emerge from the specific contexts they are used. Before discussing each of these meanings, they may be enumerated as follows:

1. a particular gesture or clap with the left hand
2. the entire system of gestures with the hand, fingers, and arm (cheironomy)
3. cymbals (idiophones)
4. the practice of percussion instruments (idiophones & membranophones)
5. a musical measure or metre, or its expansions (*viz.* duple and quadruple forms)
6. a type of musical measure or metre (*viz.* 'even', 'uneven' and 'mixed')
7. a measuring system (*pramāṇa/māna*)
8. a supporting system (*pratiṣṭhā*)
9. a coordinating system (*sāmya*)
10. time (*kāla*)
11. action (*kriyā*)
12. rhythm (*tāla*)
13. tempo (*laya*)

These meanings can be grouped into specific categories: (i) relating to gestures (1-2); (ii) to percussion instruments (3-4); (iii) to musical metre (5-6); (iv) to structuring or organising systems (7-9); (v) to relative substrata (10-11) and (vi) to dynamic factors (12-13). It should be noted that most of these meanings are attested to in the NŚ, whereas only one or two have developed in later times. For example, the association with cosmic sound (*nāda*) and absolute substrate is relatively late and is not attested to in the NŚ. This will be shown in the remaining part of this dissertation, of which the chapters are devoted to these six categories.

---

[333] Cf. Nāṭyasarvasvadīpikā 1, 5, 14 *takāraḥ śaṅkaraḥ prokto, lakāraḥ śaktir ucyate | śiva-śakti-samāyogāt 'tāla' ity abhidhīyate.* Strictly speaking, the word *tāla* may be analysed into three syllables (i.e., *ta-a-la*), which acquire three corresponding deities, but in this case the analogy and mystical implications between the pair of cymbals and the dual deities (Śiva and Śakti) is lost! Cf. the Saṅgītaratnamāla (as quoted in the Tālārṇava p. 104, v. 5) which considers three syllables and three deities: *takāraḥ śivajanmā syād, akāro viṣṇur ucyate | lakāro mārutaḥ prokas, tāle devā vasanty amī.*

[334] Cf. Nāṭyasarvasvadīpikā 1, 5, 2cd f. *tālau śakti-śivākhyau tau nādasandhānahetukau || khaṭ-paṭ-chaṭ-pramukhānāṃ ca śabdānāṃ sambhavāspadau.*

Even though some of the meanings recorded above appear to be very different and diverse, in fact they relate to different shades or aspects of a single entity or notion and do not exclude one another, are intertwined and even presuppose one another. When the relatively late association with cosmic sound (12) is left out of consideration, *tāla* may be perceived as a measuring (7), supporting (8) and coordinating system (9) that organizes or regulates musical time (10), action (11), rhythm (13) and tempo (14) of the performance by means of time-measures, or their expansions (5), which are of various types (6) and minutely translated into the system of cheironomy (1-2) that is reinforced by the accompanying percussion instruments (3-4).

Not all meanings recorded above were already prevalent during the time of composition of the NŚ; some originated much earlier and some much later. It should be accepted on ethno-musicological arguments (see § 4.2) that the cheironomical meanings of *tāla* (3-4) were the oldest, followed by the instrumental meanings (1-2). An important phase in the semantic development of the term *tāla* must have been when in course of time, it also came to designate more abstract notions related to the practice of percussion instruments (*i.e. tāla* cheironomy membranophones and idiophones). First, there is the organisation of gestures into metres (5) and the latter into types (6), followed by different conceptualisations of their function (7-9). The theory of rhythmic organisation or rhythmic system that underlies the practice of percussion instruments was interpreted differently in subsequent periods. A relatively late development appears to have been the identification of *tāla* with a number of absolute substrata (10-12) and dynamic concepts (13-14)

4. *Tāla* cheironomy

4.1 Introduction

The word *tāla*, among others, refers to the family of percussion instruments in general as well as to their performance. More specifically, it relates primarily to the cheironomical system and secondarily to *ghana* and *avanaddha* and their performing practices (§. 4.2). So apart from *tāla* cheironomy, two distinct classes or groups of percussion instruments were recognised as markers of musical time, viz. *ghana* or 'solid' instruments (idiophones), such as, for example, cymbals, bells, rattles, clappers, xylophones, etc., and *avanaddha*, or instruments 'covered' [with skin] (membranophones), such as, for example, all kinds of drums, tambourines, etc.

Percussion instruments form a separate family because action of the hands is the activating force in cheironomy, idiophones and drums; their sound is usually produced by striking or by hitting. And since this family is referred to as *tāla-vādya* the qualification *tāla* becomes particularly meaningful because it derives from √ *taḍ* 'to beat'. This root perfectly reflects the characteristic feature of the Indian percussion instruments not only because of the *way* of playing them, *i.e.* by hitting, clashing or striking them together (√ *taḍ*, √ *han*), but significantly also because of the *place* of playing, or holding them, *i.e.* the hands as extensions of the palms of the hands (*tala*) (see above, § 3.1).

Not only was the system of cheironomy called *tāla*, but also one of its so-called audible gestures. *Tāla* in the latter sense is the technical term for a slap or beat of the left hand (*tālapāta*, see above, KSS 31, 33; 40b). Since our author does not specify where the slap should take place, we may assume that it may well be on the left knee or thigh.[335] It is, moreover, very likely that this characteristic 'beat' evidently survives in the present *tāla* system as *tālī*. In ancient times, it evidently lent its name to indicate the entire system of 'beating' time.

It is anyway clear that the system of *tāla* cheironomy, a complex mechanism of well-defined gestures with the hands, arms and fingers, was designed not only to shape and constitute rhythmic organisation, but also, in fact, to measure musical time. From current ideas about the relationship between time and action in certain schools of Indian philosophy, it can be inferred that musical time might have been supposed to be measured by action. Even though time is not perceptible by the senses, it relies upon physical phenomena from the spatial world as the means (largely aural and/or visual) for its demarcation.[336] For this purpose, a set of gestures and beats appears to have been designed (see § 4.3), which, as it seems, does not derive from an existing system of cheironomy, as for example, *mudrā-s* prevalent in dance, Vedic recitation, etc.

Of particular interest in this regard, is the issue of purpose. Since the NŚ is silent on these matters, I have tried to determine, among others, the ways the system functioned in a musical sense. It appears to have been designed primarily for measuring and structuring the entire performance including vocalists, players of harps, lutes, flutes and drums, and dancers. The cheironomical motions were grouped into equal (periodic) units, each with a relative unique structure. In this way, *tāla* cheironomy provided the measures by means of musical time could be structured and measured. Thus, by translating time into action, *i.e.* by synchronising each unit of time (*akṣara* or *kalā*) with a corresponding gesture (*pāta*), musical time was made measurable and controllable. From another perspective, it further appears to be supporting and coordinating the performance (see further ch. 7). Whether these gestures are 'symbolic vestiges' of some 'original ritual function'[337] remains to be seen.

---

[335] For the reason why I tend to exclude here the possibility that *tāla* was executed on the palm of the right hand, see n. 185, above.

[336] Cf. D. Epstein 1995, 9.

The most characteristic feature of *tāla* cheironomy is perhaps the application of audible beats that determines its percussive nature, but their 'silent' counterparts are equally intriguing, due to their mysterious and ritualistic nature. Similarly, the method of 'fingering' the silent gestures also constitutes an enigmatic aspect that has not yet been studied or understood.

It further seems that later on in the time of the SR (13th century) when the ancient *tāla* cheironomy, along with traditional music (*mārga*), had receded to the background, a fresh, but evidently unsuccessful attempt was made to revive, or perhaps to integrate elements of the ancient cheironomy into the popular music (*deśī*) by introducing a new and distinct set of eight beats, such as *dhruvakā*, *sarpiṇī*, *kṛṣṇā*, etc., which are individually as well as collectively designated as *mātrā* (see further SR 5, 12-6). But eventually, this revival disintegrated into perhaps what survives presently in North and South Indian *tāla* cheironomy. On the introduction of cymbals to support *tāla* cheironomy, see below, § 5.2. I argue there that the introduction of brass or bell metal cymbals as rhythmic instruments and their successful adaptation to Indian percussion seem to be responsible for *tāla* cheironomy receding to the background.

4.2 *Tāla* cheironomy: a historical perspective

In section 5.2 below, I show on the basis of the available textual, art-historical and archaeological evidence that drums, and on that account drumming and a sense of rhythmic organisation as well, pervade the entire history of Indian culture - beginning with at least one depiction of a frame drum on seals from the Indian Valley civilization[338] and the references to the *dundubhi* war drums in the Vedic period, followed by a barrage of other drums during the epic and following periods. The strong presence of drums in Indian culture does not need further evidence to prove their dominant position in rhythmic organisation. The situation with *tāla* cheironomy and idiophones is different: the former emerges around 400 BCE and the latter around 100 CE. However, the emergence of the cymbals was not without consequences for the very existence of *tāla* cheironomy.

The word *tāla* occurs for the first time during the epic period, *i.e.* around 400 BCE, where it generally refers to the beating of time with the hands or sticks, but evidently not to cymbals, etc. The cheironomist was known by various names such as *tālāpacara* (Rām. 2, 3, 17), *tālāvacara*(*ṇa*) (Rām. 7, 91, 15), *pāṇidhvanika* (Mbh. 7, 75, 2), *pāṇisvanin* (Mbh. 12, 48, 3-6), and so on.[339] Even Pāṇini mentions artisans or perhaps artists[340] that could well have been *tāla* cheironomists, viz. *pāṇigha* and *tāḍagha* 'one who strikes the hands (*pāṇi*/*tāḷa* <

---

[337] Rowell 1992, 193.

[338] Cf. Reis Flora 1988, 216 ff.

[339] Cf. S.S. Paranjape 1985, 168 f.

[340] Even though there is little evidence of music in his time, the single reference to the *Naṭasūtra* in his *Aṣṭādhyāyī* (4, 3, 110), indicates that the notion of artists such as dancers, etc., were not completely alien to him.

tāḍa)'.[341] In post-Classical sources, he/she came to be known as *tāladhara, i.e.* 'one who keeps or beats time'.

However, after a period of about a millennium, the archaic form of *tāla* cheironomy almost disappears from reliefs and other forms of depictions, around the middle of the first millennium CE – evidently as it came to be substituted by the application of brass cymbals (*kāṃsya-tāla*). Another effect of the growing popularity of the latter was that the textual transmission of the fading *tāla* system also disintegrated around the middle of the second millennium, with the last attempts by Vemabhūpāla and Kumbhā to describe the ancient musical compositions in terms of cheironomic structures.

Studies of musical instruments show that there is relatively little evidence of cymbals in ancient India.[342] Even though the ancient Indian people were already well familiar with the application of metals during pre-Vedic times, metallurgical imperfections seems to have been one of the reasons why cymbals (*tāla*) in particular, as a representative member of the idiophone family, did not appear on the musical scene before the beginning of the Common Era. Evidently, soon when these imperfections were overcome by Greek influence, say around the turn of the millennium, brass cymbals made their entry into Indian music. The textual evidence as well as the first portrayals of these instruments in paintings and sculptures reconfirm that cymbals were accepted as musical instruments around the first century CE (see further 5.2, below).

The practical and characteristic utility of cymbals in musical ensembles was obviously soon recognised,[343] but eventually its success came to push the occasionally ineffective *tāla* cheironomy to the background. Marcel-Dubois' observes that "Apparaissant avec les premières manifestations de l'art plastique, les battements de mains disparaissent des orchestres de danse figurés dans l'art à partir du VIe siècle de notre ère environ, à l'époque où précisément les cymbales font leur apparition" (p. 29).

In fact, *tāla* cheironomy was never completely abandoned; it only receded to the background but survived, though in reduced and modified form. The antagonism that is suggested to exist between the occurrence of cymbals and the disappearance of *tāla* cheironomy is clearly attested to by depictions from subsequent periods. Vis-à-vis early depictions without any sign of cymbalists,[344] one finds later depictions of musical scenes that accommodate a cymbalist among the cheironomists and other musicians,[345] as well as situations where the cheironomists are fully replaced by the cymbalist.[346] A case in point is the antagonism reflected by a number of paintings in the cave complex of Ajantā. A highly damaged scene in cave X, one of the oldest paintings of this centre of arts,[347] depicts a large ensemble of female musicians as playing drums and trumpets and *clapping their hands*.[348] Notably there is no evidence of cymbals, etc., in this early painting, whereas the sixth century paintings of cave I show cymbalists, without any sign of cheironomists.[349]

---

[341] See above n 308.

[342] Cf. Curt Sachs 1940, 222; C. Marcel-Dubois 1941, 29 and 31; Walter Kaufmann 1981, pp. 31, 104 and 132.

[343] Abhinavagupta described the specific qualities of cymbals for the first time. See further § 5.3.1.

[344] Cf. Kaufmann, Abbildungen 3-4, 9-10, 16-7 and 78-9.

[345] *Op. cit.*, Abbildungen 51-4, 70, 118-9.

[346] *Op. cit.*, Abbildungen 88, 127, 129-30, 132, 138.

[347] The Chaitya hall No. X was excavated around the second century BCE. See Dieter Schlingloff 1987, 1-9.

[348] W. van der Meer (in W. Kaufmann 1981) p. 172. Marcel-Dubois (p. 26) describes the clapping of the hands in the Ajaṇṭā painting as the clapping of one hand on the other, i.e. as audible beats.

[349] Cf. Kaufmann, p. 170-3, Abbildungen 127-30: The Dancing Scene in a Royal Palace, cave I (ca. 6th century CE).

Concrete evidence of *tāla* cheironomy occurs simultaneously with the first representations of musical instruments and their performance practice from the Śuṅga period (ca. 2nd – 1st centuries BCE). A number of musical scenes on beautiful temple reliefs at Bhārhut depict musical processions on elephants[350] and formal music ensembles accompanying dance, and probably also singing.[351] These ensembles - representative for early Indian music - usually consist of seven or eight female musicians (*apasaras*) who are seated on the ground: two of them play on harps, two on drums and the remaining three or four are depicted as clapping their hands, probably also engaged in singing.[352]

These reliefs provide useful additional information to add to what we know from the texts, such as for example the way the hands, arms and fingers were moved (cf. § 2.6.2), or how those gestures were correlated with one another, how many cheironomists were involved, etc. They further tell that the cheironomy section was well represented by three or four artists, far most the highest cast of any musical section, only equalled or surpassed by that of dancers.

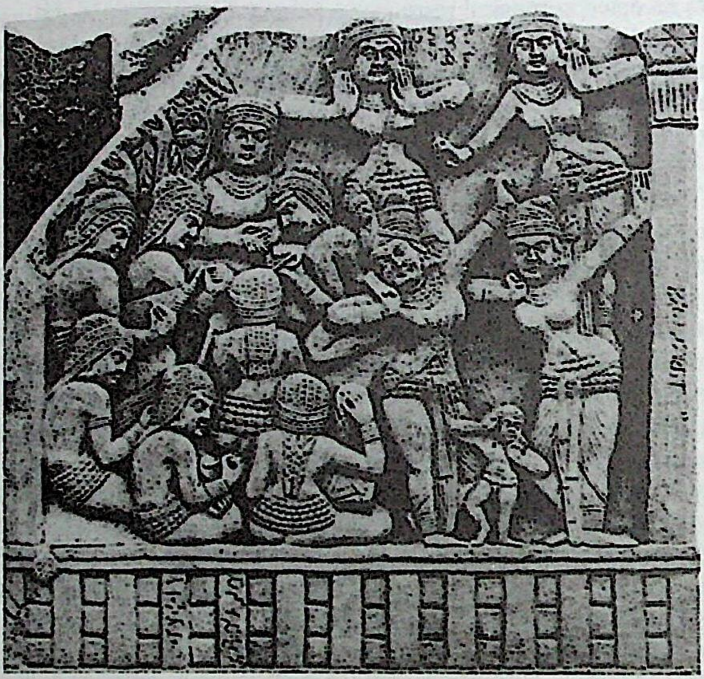


Fig 1. a group of three (or four) cheironomists accompanying the performance of music and dance.[353]

---

[350] Cf. Kaufmann, Abbildungen 6-9.

[351] *Op. cit.*, Abbildungen 3-4, 10, 16-7, 53, 56, 78-9.

[352] Beside the fact that cheironomists and drummers fully occupy the rhythmic section, these reliefs further show that cymbalists or musicians handling other idiophones are almost, if not completely, missing. On this particular matter, see further 5.2, below.

Figure 1, an oft repeated relief from Bhārhut,[354] is very important for the rest of the discussion because it is one of the oldest sources that provides a vivid and concrete evidence of *tāla* cheironomy during the Śuṅga period and perhaps earlier. Besides the five dancers on the right side, two drummers in the front[355] and two harpists on the extreme left, it shows four female figures in the centre seated in a square or circle, so that each two of them face one another.

Though all four are believed to be cheironomists,[356] only three of them are visibly engaged in clapping their hand as is suggested by the attentive mood and the way they hold or strike one hand on the palm of the other.[357]

---

[353] Relief (42, 5 x 47, 5 cm) from Bhārhut, central India, on the South gate of the Stūpa fence, Prasenajit pillar, exterior side. Estimated date: 2nd – 1st centuries BCE (Śuṅga period). Photo: Dept. of Archaeology, Govt. of India, New Delhi, Nr. 3151/61 (W. Kaufmann 1981, 45, Abb. 4).

4.3 Eight *tāla* gesture

Tāla cheironomy comprised a set of 8 gestures (or 7 when *dhruva* is not considered).[358] The origin of the these gestures is not clear, but as indicated in § 2.3 (Table 11), above, the literal meaning of their names may relate to the action of actors 'entering' or 'leaving' the stage. They are divided into a group of four so-called 'sounding' (*saśabda*) beats (vv. 37cd-9ab) and another one of four 'silent' (*niḥśabda*) waves with the hand and fingers (vv. 33cd-5ab). This system is further amplified by a more subtle form of cheironomy in which only the fingers are used (vv. 48-57; 172-87). Since the application of 'fingering' is closely related to *tāla* measures and their expansions, I have relegated their discussion to §§ 6.6.3-7.

In the NŚ the gestures are collectively designated as *tāla* (v. 29cd). The three audible gestures, either individually or collectively, are referred to as *pāta*, i.e., as a 'blow', 'stroke', 'clap' or 'beat'. Dattila, on the other hand, sometimes indicates all gestures collectively as *kalā*.[359] Later tradition, beginning with Dattila, designates the 'silent' and 'sounding' gestures distinctly as *kalā* and *pāta* respectively.[360] Abhinavagupta and others use a more appropriate term, viz. *kriyā* (action) to cover both types of gestures.

In the NŚ the dichotomy of *kalā* and *pāta* gestures had evidently not yet fully developed; the terms are, at least, not individually used as generic terms, but only occasionally when juxtaposed in a compound (cf. NŚ 31, 1ab and 50cd). But further internal evidence shows that Bharata had not yet developed the generic meanings of the terms. See further discussion § 2.1, above.

Both categories of gestures are marked visually by their specific movements, whereas the audible gestures are distinctly marked by impact and aural characteristics. The fact that the silent gestures lack aural properties does not necessarily mean that they were inferior or subordinated one way or the other. On the contrary, they appear to represent an abstract, mysterious and rather indispensable aspect of *tāla* cheironomy, reminiscent of ancient and ritualistic *mudrā-s*, whereas the sounding gestures represent a relatively concrete aspect, because, as *simple* beats they are audible and easily executed with a single stroke by either the right, the left or both hands.[361]

The audible gestures play an important role in punctuating a given *tāla* pattern with certain fixed accents. They determine the structure of that pattern, as displayed by its basic or syllabic form (*yathākṣara*), whereas the silent gestures play a role in transforming these basic forms into their so-called expanded states (see further § 6.5.3). In other words, the basic form of all *tāla* patterns, as a rule, is always made up of audible gestures. An exception to this rule is the pattern that is known as *udghaṭṭa tāla* because it has a silent gesture at its beginning (i.e., *niṣkrāma-śamyā-śamyā*) (see v. 24). It should be noted that *udghaṭṭa* differs in more than one respect from the other patterns, and as I shall argue in the following section, it is perhaps not a real *tāla*, but only a practical opening gimmick that could be prefixed to hypermeters or hyperstructures such as the *āsārita-s*, etc. (see § 6.3.5).

4.4 Standard beat-combinations

---

[358] On the suspect position of the *dhruva* beat in the older sources, see §§ 1.1.2, 2.6.2 and 4.6.

[359] Datt. 114 d *kalā saptavidhoditā*.

[360] Cf. SR 5, 4 d *niḥśabdā tu kalocyate*.

[361] In this regard Gānabandhu warns Nārada, in the Adbhuta Rāmāyaṇa, that he should not keep *tāla* with just one hand, implying that both hands were to be used (*naikahastena śasyeta tālasaṃghaṭṭanaṃ mune*). Passage cited from by V. Raghavan in "Music in the Adbhuta Rāmāyaṇa", *JMAM* XVI, p. 70.

The audible gestures of a given pattern, as a rule, were always arranged in a fixed order and each series was characterised by its initial beat. That means that with the three beats recognised by the NŚ, viz. *sannipāta*, *śamyā* or *tāla*, three sequences or combinations could be made. Accordingly, Bharata distinguished three series, *viz.* Sannipātādi, Śamyādi and Tālādi, each of them named after their initial beat (vv. KM 12ab-KSS 18):

Table 13 Beat-combinations.

1	**Sannipātādi**	*saṃ*	*śa*	*tā*	*śa*
2	**Śamyādi**	*śa*	*tā*	*śa*	*tā*
3	**Tālādi**	*tā*	*śa*	*tā*	*śa*

Describing their application in the principal *tāla-s* (see above, § 2.3), Bharata further specifies in which situations these combinations of beats were to be applied, *viz.* Sannipātādi in (the music of) *nāṭya*, Śamyādi in *āsārita*, etc., and Tālādi in *pāṇikā*, etc.[362] Although the literal meaning of these directions is clear, the text remains elusive as to what is actually meant, because this matter neither is elucidated here nor supported elsewhere in the rest of the chapter.

The only plausible way of making sense of the first statement is by interpreting the word *nāṭya* as alluding to its musical context; music was most prominently employed during the *pūrvaraṅga-s*, *i.e.* the theatrical preliminaries of a play, which were characterised by an abundance of musical activity.

The prescription of Śamyādi in the *āsārita-s* is consistent with the text (see KSS 31, 61cd ff.), however, with the same difference that it does not end with *tāla*, but with *sannipāta* (*i.e. śa*, *tā*, *śa*, *saṃ*). However, the prescription of Tālādi in the *pāṇikā* songs is not so easy to verify, at least not on the basis of the NŚ, simply because the latter is practically silent about this category of songs, except for some remarks on the number of structural components employed in it (cf. KSS 31, 421-4). However, details in the Datt. (v. 233), SR (5, 219ab) and, in particular, the Bharatabhāṣya (foll. 47v-62r) attest to the fact that the Tālādi sequence of beats was indeed used profusely in the *pāṇikā* songs.[363]

4.5 *Sannipāta* - the key to cyclic rhythm

For investigating whether or not the ancient Indian music of the NŚ was already endowed with the proverbial sense of cyclicity, so typical of modern Indian music, one should first understand the nature of the *sannipāta* beat in *tāla* cheironomy. A study of its role and position in ancient compositions such as the *āsārita-s* provide interesting clues to the first ideas about cyclic procedures. *Sannipāta* is not only the strongest beat in *tāla* cheironomy, but also plays a pivotal role in the origination of the Indian concept of rhythmic and metric cycles. In the following paragraphs I demonstrate that as a strong opening beat, *sannipāta* is involved in creating a sensation of rhythm and cyclicity because on the one hand, (as the downbeat) it creates a sense of 'beginning', and on the other, (as the upbeat) also that of 'finality' when it first 'shifts' to the end of a pattern and second, coincides with the first beat of the following sequence: the beginning and end of cyclical patterns coinciding on the punctuation of *sannipāta*.

---

[362] Since the GOS version omits the line that prescribes *sannipātādi* in *nāṭya*, Abhinavagupta is silent on the matter. Likewise Śārṅgadeva and the commentators (on the SR) corroborate only the latter two options and the application of their respective vocal forms (SR 5, 28). Does their silence indicate that the popularity of *sannipātādi* in *nāṭya* was considered to be so obvious that tradition did not deem it necessary to mention it, but only point out the limited scope of the other two combinations?

[363] We have to be careful because the Datt. is lacunal at this point. Of the four components of *pāṇikā* (i.e. *mukha*, *pratimukha*, *śarīra* and *śīrṣaka*) the first two were formed with structural units called *mātrā*, which appear to have had the same beat-structure as in the *rovindaka gītaka* (cf. Datt. v. 233ab *mātrā rovindakasya....laḥ pṛthak pṛthak*, SR 5, 219ab *ādyā rovindakagatā mātraikā pāṇikā mukham*). See further Ramanathan pp. 319-23; Widdess 1981, 498 ff.; Lath 1988, 199; Chaudhary 1997, 205-7.

4.5.1 *Sannipāta* - the strongest beat

Bharata mentions the Sannipātādi combination of beats as being stronger than the other two series (v. 18cd), and probably implies that not all three series were equally effective, but only the one augmented with *sannipāta*, whereas the other two are nothing but audibly undifferentiated successions of single-handed beats.

The *sannipāta*, as a beat that is executed with both hands, must have been audibly more articulated than the other two beats, and its employment in a series, especially at the beginning, as in Sannipātādi, certainly introduced more dynamics. As the agent that delineates the rhythmic pattern, it represented the strongest beat of that series. This assumption at least clarifies why Sannipātādi was considered strong (*balavān*).

Another way of proving the superiority of Sannipātādi is by comparing its beat-combination with those of Śamyādi and Tālādi. When these combinations are applied in larger structures, (e.g., composite or expanded patterns,) their final beat (either *śamyā* or *tāla*) appears to be substituted by a *sannipāta*. The *tāla* patterns were required to end on a *sannipāta* beat, especially in complex structures such as the *āsārita-s*, *gītaka-s*, etc., or their duple and quadruple states of expansion. Even the *yathākṣara* (or *ekakala*) may end on a *sannipāta* when constituting a structural component (*aṅga*) or complex structure.[364] Unlike the other beats that were performed with one hand, the *sannipāta* was executed with both hands - either struck together or at the same time and presumably on the thighs. Because of the effect ensuing from the special effort, one may assume that it was most probably the strongest beat, obviously applied to highlight the beginning or end of a metrical pattern.[365]

I will argue that the rule mentioned above is ambiguous because the apparent substitution of the final beat by a *sannipāta* is in fact a transposition of the latter from another place to a seemingly final position. When, for example, the Śamyādi combination of beats (*i.e. śa*, *tā*, *śa*, *tā*) was applied, the final beat (*i.e.* a *tāla*) of that pattern was replaced by a *sannipāta* and the resulting pattern then became: *śa*, *tā*, *śa*, *saṃ*.[366]

From another point of view this new pattern resembles the *sannipātādi* combination (*i.e. saṃ*, *śa*, *tā*, *śa*), but with the single, yet significant difference that the *sannipāta* beat appears to be shifted from an initial to a final position. Similarly, the *yathākṣara* pattern of *pañcapāṇi tāla* (*i.e. saṃ*, *tā*, *śa*, *tā*, *śa*, *tā*),[367] changes its order of beats in the expanded forms in a similar way as in Śamyādi, *viz.* the *sannipāta* in the beginning is transferred to a final position (*i.e. tā*, *śa*, *tā*, *śa*, *tā*, *saṃ*).

---

[364] See further the *aṅga-s*, such as *saṃharaṇa*, *ayugma pravṛtta*, *sandhi*, *vajra*, etc. Cf. Kintaert 2000, 139 ff.

[365] One could compare the strong *sannipāta* at the end of a *tāla* cycle with that of the powerful basses of the large gongs concluding main phrases in Javano-Balinese Gamelan music. Cf. C. Sachs 1940, 237. Also see Epstein 1995 30 f.

[366] See KSS 5, 64cd-5ab.

[367] In fact, it is also a Sannipātādi pattern, but amplified to six beats.

These two examples provide enough evidence for advancing the thesis that the alleged substitution of a final beat by *sannipāta*, in fact, is a transposition from an initial position. Our author also points out this phenomenon, but only as a general rule that prescribes a *sannipāta* at the end of (expanded) *tāla* patterns.[368] Since these patterns usually constitute the structural components (*aṅga*) of most of the traditional songs, these components, such as, for example, *vastu*, *pāda*, *śākhā*, *pratiśākhā*, etc., were also said to end on a *sannipāta*.[369]

The occurrence of the *sannipāta* in a final position indicates a remarkable development. In the *āsārita* songs one clearly notices a tendency to push the 'main beat' still further back, eventually even to the first beat of the following rhythmic cycle.

It is because of this peculiar phenomenon that I have concluded that the *sannipāta* beat, very much similar to the *sam* in modern Indian music, figures as the pivotal beat that has the dual function of marking the completion of a preceding pattern, as well as the beginning of a following pattern. This characteristic of *sannipāta* thus supports the thesis that rhythmic patterns in ancient Indian music moved in a cyclic way.

4.5.2 Textual evidence of cyclic notions in ancient Indian music

Some investigations have outright denied the presence of cyclic notions in ancient Indian music[370] or, been marred by speculations.[371] Subsequently, the idea of cyclicity of time and its origin has still not been satisfactorily solved in modern music, let alone in ancient Indian music. The problem with most of these attempts is that they do not scrutinise the ancient musical compositions of the NŚ, at least not in the original Sanskrit. It has to be cautioned that undertaking a formal study of these materials does not yield the expected results. A painstaking analysis of details is necessary, such as, for example, the covert transposition of the *sannipāta*. As indicated above, I have analysed the *āsārita-s*, which contain surprising clues about cyclic procedures.

The origin of this idea is usually traced back to the doctrine of cosmic cycles, which measures the periodic creation and destruction of the universe with units of measurement such as *yuga* (age), *kalpa* (aeon), *manvantara* (14 aeons), etc.[372] According to the cosmology of the

---

[368] Cf. KSS 31, 50a *sannipāto 'nte*, 54ab, 56c *sannipātas tathānte ca*, 62cd, 67ab, 170cd, 171cd, 179ab, 182cd, 243ab, 244cd, 326ab, 333cd, 339ab, 345ab, 348cd, 372ab, 376cd, 382cd, 393ab, 404ab, 427cd, 430cd, 444cd, 458ab. Cf. GOS 31, 68cd *ante ca sannipātaḥ syāt sarveṣām apy ayaṃ vidhiḥ*, etc.

[369] Cf. KSS 31, 67ab *sannipātair nipātaiś ca teṣāṃ vastu prakīrtitam*; Datt. 160ab *vastvante sannipātaś ca saptarūpavidhau sadā*.

[370] Cf. Martin Clayton (2000, 16 f.) who claims that the idea of music structure reflecting cyclical time does not seem to have been prevalent in India in the first millennium CE. He seems to connect this idea with the emergence of the *deśī tāla* system (ca. 13th century). Another related historical claim he makes is that there is no evidence of the latter system in the NŚ or in other first-millennium sources. (p. 17). With this, he obviously denies the possibility that traditional (*mārga*) and popular (*deśī*) musical traditions could have existed side by side, within or without the radius of one another's influence. The fact that certain ideas are not found in the extant text of the NŚ does not mean that they did not exist in Bharata's days (see further E. te Nijenhuis 1992, 59). One may compare, for example, the situation in the field of linguistics, where it would seem foolish to assume that Sanskrit at the time of Pāṇini was free from vernaculars and *vice versa*. Cf. Whitney 1889, xi f.

[371] Clayton (*op.cit.*, pp. 16-26) reviews some of the current views and also advances his own theory.

[372] Cf. B. Bäumer 1992, 40 f. Also see Mircea Eliade 1992, 103. For other works on time, cf. Time and Temporality (special issue), *Philosophy East and West*, Vol. XXIV, No. 2 April 1974.

Epics and Purāṇa-s, these processes continually repeat themselves in a fixed pattern.[373] Since this doctrine appears to have developed in post-Vedic periods, as attested to by numerous accounts from the epics and other works,[374] it cannot be ruled out from having influenced the NŚ, depending on how closely the latter is dated to the epics. However, in the absence of concrete evidence, I suggest putting this doctrine to rest and trying to prove the presence or traces of cyclicity in the NŚ itself. First, I review the ideas and techniques that involve repetitions.

The basic idea of repetition is certainly represent in the Nāṭyaśāstra, as indicated by notions such as for instance, *nivṛtti*, *upavartana*, *parivartana*, etc. However, most of them are limited to repetitions of parts of a pattern, and involve variation of tempo by means of acceleration or deceleration. In the Aparāntaka song, for example, when in the final part of a pattern a portion of the text (and melody) is rendered at double speed, then the same has to be repeated to complete the period, and is called *upavartana*. In this regard the Saṅgītaśiromaṇi (1428 CE) confirms that "In traditional music (*mārga*) [*i.e.* the music of the NŚ], repetitions of *tāla* were called *parivartana*. A repetition occurring in words (*pada*) and phrases (*vākya*) is [also called] a *parivartana*."[375]

Likewise the gradual doubling [in fact: halving] of the tempo during successive grades or states of the *āsārita-s*, *vardhamāna-s* and other *gītaka-s* is marked as *dvikala* and *catuṣkala tāla* (or *dvisaṃkhyāta* and *trisaṃkhyāta*), *i.e.* the states of structural expansion obtained by respectively doubling and quadrupling the original measures of time (*kalā*).

A special technique applied for creating rhythmic variety in the *āsāritā-s*, was *ardhayoga* (KSS 31, 208-224; 407-414). It involved internal repetition (*nivṛtti*), usually at the end of patterns, by means of compression or acceleration of certain syllables or words. This procedure obviously created appealing rhythmic variety within a given pattern (or perhaps over different patterns) and apparently depended on the principle of building and resolving tension with subsequent accelerations and restorations of tempo. Such repetitions at the end of patterns may or may not have led to what is now known as *tihāī*, but they do not explain repetitions of entire patterns. The following inquiry into the *āsāritā-s*, and particularly into the shifting *sannipāta*, at least provides rich materials for further study in this field. The importance of these developments warrants a closer examination.

4.5.3 *Sannipāta* - the opening and concluding beat

It has to be conceded that the idiosyncrasies of the final *sannipāta* in the *āsāritā-s* clearly indicate that this beat may have played an important role in triggering off certain musicological and rhythmical developments which still survive in modern times. What I mean is that the modern concept of cyclicity in musical time[376] seems to have its roots or basis in the dynamics of the ancient *sannipāta*. This phenomenon can best be demonstrated by means of the illustrations provided by the *āsārita* songs (see KSS 31, 59-267ab).

As suggested by the name of the *āsāritā-s*, these songs were 'dragged out' or extended, not only by the regular procedure of expansion, but also by systematic repetitions (*nivṛtti*). The way the latter subject is treated in the NŚ seems to indicate the transitional phase from linear musical time to a more cyclical conception. In short, variation in the *āsārita-s* does not depend merely on the principle of expansion, but also on that of repetition of a basic pattern. The linear progression through duplications in three stages, *i.e.* from *ekakala* to *dvikala* and *catuṣkala*, appears to be abandoned, but, in fact, it is integrated into a repetitive method.

---

[373] Cf. Bäumer, *ibid*.

[374] *Op. cit.*, p. 40 and n. 130.

[375] Saṅgītaśiromaṇi XII, 188cd f.:
mārge tālavṛttayaḥ syuḥ parivartanasaṃjñakāḥ
padavākyagataḥ ceyam āvṛttiḥ parivartanam

[376] For a recent update on the idea of cyclicity in musical and cosmic time, cf. Martin Clayton 2000, 15-26.

4.5.4 Evidence in the *āsārita* compositions

There are three main types of *āsārita-s*, namely the 'short' (*kaniṣṭha*), the 'medium' (*madhya*) and the 'long' (*jyeṣṭha*) of 17, 33 and 65 *kalā-s* respectively.[377] Structurally they relate to one another in the same way as the three states of *tāla* expansion (cf. KSS 31, 65cd-7ab). That means that the 'short' *āsārita* corresponds to the *yathākṣara*, the 'medium' to the *dvikala*, and the 'long' to the *catuṣkala* state. There is, however, one important difference. Instead of a plain series of consecutive doublings (e.g., 16 > 32 > 64), they represent an odd 'plus one' series (i.e., 17, 33, 65), which, in fact, is the result of doubling as well as of addition. However, what is important here is that the doubling, in fact, is perceived as repetitions (*nivṛtti*), whereas the so-called additional beat at the end of a sequence does not really exist, but is given only to show the downbeat nature of *sannipāta*. In this series, the number 16 forms the basis, which is doubled in subsequent states. Number 17 of the 'short' *āsārita* thus represents the first grade of 16 *kalā-s* plus 1; 33 of the 'medium' *āsārita* the duple state (of 2 x 16) plus 1; and 65 of the 'long' *āsārita* the quadruple state (of 4 x 16) plus 1. Like in contemporary Indian music, the so-called 'additional' beat is nothing but the first of the following pattern, and as the first of a new cycle, it heralds the cyclical or spiral progression.

Table 14 *Āsārita* patterns.

Āsārita-s	Kalā-s
'short'	17 [= 16 + 1]
'medium'	33 [= 32 + 1]
'long'	65 [= 64 + 1]

These ideas need further explanation. Formally, the *āsārita-s* consist of four structural components (*aṅga*); first an 'opening prelude' (*mukha*), second a 'secondary opening' (*pratimukha*), third the 'body' (*śarīra*) and fourth a 'conclusion' (*saṃharaṇa*). In this respect, the *āsārita-s* represent hyperstructures of four bars. The *mukha* is notably composed of meaningless syllables, but the last three components are composed of well-known patterns, which have already been described in the first part of the *tāla* chapter (cf. v. 58). The *pratimukha* is made up of a *cañcatpuṭa* pattern of four syllables and the *śarīra* as well as *saṃharaṇa* of a *pañcapāṇi* pattern (of six syllables) each. The entire suite then concludes with an additional *sannipāta* beat. It thus consists of 17 beats, *viz.* (4 + 6 + 6) + 1 beats. These three patterns plus the additional *sannipāta* form a cluster that represents the characteristic structure of the *āsārita-s*. However, most conspicuous in this sequence is the addition of the final beat. As indicated above, this phenomenon seems to indicate an important structural development in the field of rhythmic theory, *viz.* the transference of a final accent to an initial position in following cycles so that the structure then actually becomes 1 + (4 + 6 + 6). In actual performance, this could have meant the coalescence of the initial and final beats of successive cycles. With the transference of the *sannipāta* to an initial position the ultimate effect was that the first bar of the hyperstructure is perceived as accentually the strongest.

---

[377] A fourth type mentioned in the text, called the *layāntara* (KSS 31, 67cd-71ab), is in fact only a variation on the 'short' *āsārita*. In other words, *layāntara* is the same as *kaniṣṭha āsārita*, but performed in a different tempo (*laya*), most probably in the 'medium' tempo. This means that the latter was 'moderated' or slowed down.

Of the three main *āsārita-s*, the 'short' form is explained first. It is presented as a composite structure made of a juxtaposition of one *cañcatpuṭa*[378] and two *pañcapāṇi*[379] patterns (v. 59). Notably, the individual beat-structure belonging to each of the constituent patterns is retained in the composite form of the *āsārita*. Together they form its basic structure. However, the *āsārita* becomes complete only when a final *sannipāta* beat has been added to the structure (v. 62cd). The entire structure thus consists of seventeen beats (i.e., 4 + 6 + 6 + 1). Because of the fundamental position of the 'short' *āsārita*, it is also referred to as the *yathākṣara* form[380] of the *āsārita-s*, implying that the other forms are derived from it by expansion.

Table 15 The 'short' *āsārita* structure.

Kalā-s	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Gestures	śa	tā	śa	tā	Saṃ	tā	śa	tā	śa	tā	Saṃ	tā	śa	tā	śa	tā	Saṃ
Patterns	*cañcatpuṭa*				*pañcapāṇi*						*pañcapāṇi*						'extra'

An interesting problem concurring with the additional *sannipāta* at the end of the *āsārita-s* is that it does not seem to relate to any verbal or temporal instant of that composition. In other words, it does not underlie or correspond to any syllable or time-unit of the *āsārita*. This assumption is supported by our earlier observation, *viz.* that the concluding *sannipāta* probably falls outside the basic structure of the composition. At the same time it should be conceded that at least on one occasion the final *sannipāta* is prescribed with an additional *kalā* (v. 190b *sannipātaḥ kalādhikaḥ*).

However, since the text itself consistently treats it as an unmistakable part of the composition, I suspect that it represents the initial beat of a following cycle. The idea that the performance took place in a cyclical fashion and not in a linear manner seems to be anticipated by indications that the initial beat (*i.e.* a *śamyā*) and the concluding beat (*i.e.* a *sannipāta*) overlap one another. In this respect the ancient *sannipāta* resembles the modern *sam*, *i.e.* the strong opening - *cum* - concluding beat in modern Indian classical music. Structurally *sam* is the first and strongest beat of a rhythmic cycle, but when conceived in a linear way, it may be said to occur at the end of each cycle. It thus not only marks the beginning of a new cycle, but from an aesthetical point of view, also the completion of the preceding one.

What lies at the basis of the problem described above, is an apparent incompatibility between the number of time-syllables and corresponding gestures. The basic structure of the *āsārita-s* is described as consisting of 16 time-syllables (*i.e.* 4 + 6 + 6) and 17 beats (*i.e.* 16 + 1). It is because of this incompatibility that I have argued that the last beat falls outside the basic structure, because it does not relate to a corresponding unit of time. So far we have seen that every verbal or temporal instant in a given pattern is accompanied by a silent or audible gesture of the hand. In other words, the progression of time is made 'measurable' by a specific sequence and number of gestures. We see for the first time that one particular beat, *i.e.* the final *sannipāta* of the short *āsārita*, and later on the initial *śamyā* of the medium and long *āsārita-s*, does not correspond to an underlying unit of time. Conversely, if a seventeenth gesture is indeed required in the *kaniṣṭha āsārita*, a corresponding seventeenth syllable is also expected to exist there, in our case, immediately after the sixteenth syllable. But since the NŚ is generally silent on this matter, it is not clear what the seventeenth gesture represents. On the other hand, it may be assumed that a gesture cannot appear independently without any reference to a unit of time, because that would result in the logical absurdity that 'action' (*i.e.* the *sannipāta* beat) occurs independent from 'time' (*i.e.* a unit of time).

---

[378] For a description of this pattern, see § 6.3.5.

[379] For a description of this pattern, see § 6.3.6.

[380] On the *yathākṣara* form in general, see § 6.3.2.

Dattila appears to have noticed the 'incompatibility' in Bharata's treatment of the *āsārita-s* because he points out the independent nature of the final *sannipāta* by qualifying it as 'free' or 'independent'.[381] Kumbhā does the same, but goes a step further by allocating the necessary measure of time to the final *sannipāta*, namely a long syllable (*guru*) which he qualifies as 'independent'.[382] In this way he resolves the problem in a reasonably logical way by relating each beat of the composition, including the final *sannipāta*, to a particular unit of time. While Dattila points out that the final *sannipāta* is 'independent', Kumbhā makes it perfectly clear that not only the beat, but also the measure of time corresponding to it is separate or 'independent' (*muktaka*) from the rest of the composition. In this respect Kumbhā seems to be guided by the principle that action has to be correlated to some measure of time. Śārṅgadeva is silent on this matter.

While we could satisfy ourselves by assuming that Kumbhā's decision to relate the final *sannipāta* to the *guru* unit of time was philosophically motivated, there is a slight possibility that he might have drawn from the NŚ itself (v. 190b). The textual examples which the NŚ provides to illustrate the three main *āsārita-s* (vv. 200-7) also indicate that the concluding *sannipāta* was related to text and time. How this inconsistency should be resolved is not easy, but, as suggested above, the solution indeed seems to lie in the overlapping of beats, *viz*., that of the final beat of one pattern with the initial one of the following pattern. In other words, the additional *sannipata* at the end does not really exist; it only represents the downbeat of the following cycle.

The medium *āsārita* is formed in a slightly different manner to the short *āsārita*. In the preceding section it could be seen that the first phrase of the short *āsārita* comprised a syllabic *cañcatpuṭa* pattern of four *kalā-s*, the second and third phrases *pañcapāṇi* patterns of six *kalā-s* each, followed by a formal conclusion with a *sannipāta* beat. It thus also consisted of 4 + 6 + 6 = 16 *kalā-s* and (4 + 6 + 6) + 1 = 17 beats. In the medium *āsārita*, however, the situation is different and matters are complicated significantly, because the formation of the first phrase is not based on a *cañcatpuṭa* pattern, but (appearingly) on a *pañcapāṇi* pattern. Moreover, the position of the final *sannipāta* is now changed as it is integrated into the main structure. While in the short *āsārita* the *sannipāta* appeared to fall outside the basic structure of the 'short' *āsārita*, it now occurs as the final beat of not only the entire suite, but especially of the third constituent phrase. In what follows I will try to explain the rationale behind these changes.

Bharata instructs that firstly three (identical) patterns of *dvikala pañcapāṇi* should be juxtaposed and then that the initial three *kalā-s* (of the first pattern) should be removed.[383] In this way we obtain the three phrases of the medium *āsārita*:

---

[381] Datt. 225ab *muktikaḥ sannipāta* [...]. E. te Nijenhuis (1970, 414) interprets the word *muktika* 'detached, simple' as referring to the *yathākṣara* or *ekākṣara* procedure. Accordingly her interpretation of Kumbhā is also not convincing. Kumbhā uses another word, viz. *kalika* to refer to the *yathākṣara* (S. Rāja 2, 4, 1, 290c), and uses the word *muktika* to qualify the independent nature of the final long syllable (*guru*). See following note.

[382] S. Rāja 2, 4, 1, 291a *gurv ante muktakas teṣāṃ.*

[383] KSS 31, 73 *uttaratālaḥ prathame vastuny ādau kalātrayaṃ tyaktvā* | *kāryau madhye nityaṃ dvau parivṛttau ca sampūrṇau* ||

Table 16 The medium *āsārita.*

Phrase I

1	2	3	4	5	6	7	8	9
śa	*ni*	*tā*	*ni*	*śa*	*tā*	*pr*	*ni*	*saṃ*

Phrase II

10	11	12	13	14	15	16	17	18	19	20	21
ni	*pr*	*tā*	*śa*	*ni*	*tā*	*ni*	*śa*	*tā*	*pr*	*ni*	*saṃ*

Phrase III

22	23	24	25	26	27	28	29	30	31	32	33
ni	*pr*	*tā*	*śa*	*ni*	*tā*	*ni*	*śa*	*tā*	*pr*	*ni*	*saṃ*

Notably, all phrases (*vastu*)[384] are now based on just one type of pattern. The first phrase consists of 12 - 3 = 9 *kalā-s* and the following two of twelve *kalā-s* each. The medium *āsārita* thus consists of 9 + 12 + 12 = 33 *kalā-s* and 5 + 6 + 6 = 17 beats. It further strikes one that even though both the short and medium *āsārita-s* have the same number and order of beats, their internal organisation is quite different. To understand this problem I shall now briefly compare how the beats were grouped and phased. The following table clearly displays the structural idiosyncrasies of the two *āsārita-s*:

Table 17 Shifting of accent in the medium *āsārita.*

Beats	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Short *āsārita*	śa	tā	śa	tā	Saṃ	tā	śa	tā	śa	tā	Saṃ	tā	śa	tā	śa	tā	Saṃ
	cañcatpuṭa				*pañcapāṇi*						*pañcapāṇi*						
Medium *āsārita*	śa	tā	śa	tā	Saṃ	tā	śa	tā	śa	tā	Saṃ	tā	śa	tā	śa	tā	Saṃ
		cacatpuṭa				*pañcapāṇi*						*pañcapāṇi*					

The first phrase appears to be altered from a tetrasyllabic structure (*i.e. śa-tā-śa-tā*) to a pentasyllabic one (*i.e. śa-tā-śa-tā-saṃ*).[385] But, as will be argued below, it only seems to be so. The other two phrases have not changed their structure, but have only been transposed in their entirety one 'beat' to the right. Subsequently the initial *śamyā* becomes the 'extra-structural' or 'free' beat, *i.e.* the beat that falls outside the basic structure.[386]

It is evident that Bharata followed two different paradigms to organise the components of the *āsārita-s*, but he did not elaborate too much on them. He first treats the three constituent *tāla* patterns (*aṅga*) as independent components, to which a *sannipāta* is added at the end. Later on he discards the conventional boundaries of the *tāla* patterns and accepts others; thereby dividing the seventeen beats in such a way that each of them now ends on a *sannipāta.* And last but not least, the initial *śamyā* becomes 'empty'. Each division is now called a *vastu* (phrase) and each *āsārita* is thus made up of three *vastu-s.* Note that later tradition only reckons the latter paradigm as forming the medium *āsārita.*

Thus depending on which paradigm is followed, the beat carrying the strongest emphasis occurs at the end or at the beginning. In the principal chapter on dance (NŚ IV) Bharata seems to throw some light on this dichotomy, though mainly from the perspective of the *graha, i.e.* the point where other ensembles 'enter' or 'join in' the musical performance (see further §

---

[384] On the structural components called *aṅga* or *vastu*, see above § 2.8.1

[385] Here the word syllable refers to the *kalā* and beat it represents.

[386] Cf. A.Bhā. on NŚ 31, 97 p. 202, ll. 19 f. *ādyā kevalam adhikā śamyā muktakasannipātakalā.*

9.7.4.1, below). Usually the drum ensemble locks in on the *sannipāta* at the end of a verse-line (*pāda*).[387] Bharata prescribes the following rule for the *gītaka* and *āsārita* compositions. "When *vastu-s* are combined [to compose a song] then [the drums] join in at the end, but when *aṅga-s* are [combined or] repeated, then [the drums] enter at the beginning."[388]

From a musicological point of view *graha* relates to the notion of phased synchronisation or syncopation; certain ensembles enter the performance in phases. The Indians distinguished three stages of phasing depending on the place of the initial accent, which is usually indicated by cymbals and drums. When there is no difference of phase, that means when the stresses in *tāla*, fully coincide with those in song, music or dance, the phasing is called 'even' (*samagraha*). However, when the initial accent is accelerated (and thus occurs earlier) it is called 'early' (*anāgata*), and 'late' (*atīta*) when delayed. Musically only the latter two are interesting, because they go against the original beat.

When these ideas are applied to the *āsārita-s* it follows that from the perspective of the *vastu-s*, the drum-section locks in at the end on the concluding *sannipāta*, but from the perspective of the *aṅga-s* it locks in at the beginning on the *śamyā*. In the former case we may speak of a 'delayed' phasing because the accent falls outside the pattern, *viz.* on the first of the following round, but in the former, we may speak of an 'accelerated' phasing because the accent occurs too early, and therefore also falls outside the pattern, *viz.* on the last of the preceding round. Thus again, depending on which phase of synchronisation (*graha*) is followed, the strongest beat occurs either after the pattern (*atīta*) or before it (*anāgata*). See further § 9.7.4.1, below.

It was Abhinavagupta and Śārṅgadeva who noticed and systematised the internal organisation of the *āsārita* components. When the structural components (*aṅga*) in the short *āsārita* were treated in their own right, that is 'without splitting' them, they were called *a-vibhaktāṅga* ('having no split components'). But in the other *āsārita-s*, where they were split, and then re-grouped, they were qualified as *vibhaktāṅga* ('having split components').[389] I have described this process of splitting and re-grouping of components as their translateral transference or transposition.

4.5.5 The concluding *sannipāta* in *yathākṣara āsārita*

After considering the transposition of *sannipāta* in the medium and long *āsārita-s*, we should now turn to the core of the problem, *viz.* the *sannipāta* at the end of the short *āsārita*, and try to explain why it occurs there, especially when the opposite situation is expected on the basis of analogy with other structures. Since the main *āsārita-s* run parallel with the three states of expansion, it follows that the short *āsārita* runs parallel with the *ekakala*. Our text corroborates this analogy by indicating the short *āsārita* as the *yathākṣara āsārita* (v. 63 ab). As I have assumed thus far that the *ekakala* or *yathākṣara* are not required to end on a *sannipāta*, unlike the *dvikala* and *catuṣkala* states, it is striking that the *yathākṣara āsārita* prominently ends on one! This seems to contradict all other *yathākṣara* patterns, which as a rule never end on a *sannipāta*, but on the contrary, often begin with one.

---

[387] KSS 4, 316 ab *pādānte sannipāte tu tasyā bhāṇḍagraho bhavet.*

[388] KSS 4, 301cd-302:
yāni vastūni baddhāni teṣām ante graho bhavet
aṅgānāṃ tu parāvṛttāv ādāv atra grahaḥ mataḥ
evam eṣa vidhiḥ kāryo gīteṣv āsāriteṣv ca

[389] Cf. SR 5, 190 cd *vibhaktāṅgeṣu teṣu syur avibhāge yathāsthitam.* In the NŚ the word *prativibhakta* occurs once (KM 31, 96 ab), but does not seem to be used in the sense described above.

The only possible answer that comes to my mind is that *yathākṣara āsārita* was also performed and therefore treated like the other variations, *i.e.* the expanded states. This hypothesis needs further explanation. Thus far it appeared that the *yathākṣara* forms were nothing more than theoretical blueprints used to indicate the structure and idiosyncrasies of a given *tāla*, and that only their expanded forms (*i.e. dvikala* and *catuṣkala*), were designed for actual practice. But this is obviously not true because there are numerous occasions in the *gītaka-s* where the *yathākṣara* itself is employed as a structural component (*aṅga*).

However, it is my contention that in these cases it is not the *yathākṣara* as a theoretical construct that is intended, but its *ekakala* counterpart in the expanded states. That means that the *ekakala* should be treated in a similar way to the other two states of expansion, *viz.* by having its *sannipāta* transposed to the end. Thus, when the *yathākṣara* does not have a *sannipāta*, the final beat should simply be substituted by one. It is in these isolated applications of the *ekakala* that the *yathākṣara* appears to conclude with a *sannipāta*.[390]

The rationale behind the alleged substitution may be explained as follows. *Yathākṣara* patterns do not usually end with a *sannipāta*, but begin with it. They are occasionally employed as structural components (*aṅga*) in the *gītaka-s*. As they are usually preceded by at least one component that ends on a *sannipāta*,[391] there is the possibility that two *sannipāta-s* may have occurred side by side, *viz.* one at the end of the preceding component and the other at the beginning of the *yathākṣara* pattern. There are some examples where beats of the same type (either *śamyā* or *tāla*) are juxtaposed side by side (cf. *madraka* song); however, to the best of my knowledge there is no single instance of a *sannipāta* being repeated! Thus in those situations where, for example, a *yathākṣara* pattern follows some expanded pattern(s), it is most unlikely for two *sannipāta-s* to occur at their juncture. However, the problem is resolved when it is assumed that the *ekakala* state of the *yathākṣara* pattern was used instead of the latter, because, like in other expanded states, the *sannipāta* in *ekakala* is also supposed to be transposed to the end (see further, following section). We may therefore conclude that it is justified for the *yathākṣara āsārita* to end on a *sannipāta* because as soon as a *yathākṣara* pattern is employed in a larger structure, its *ekakala* form is actually meant, especially when we know that Bharata often uses these two terms as synonyms.

4.5.6 The transposition or coalescence of *sannipāta*

The constituent patterns in the short *āsārita* were *yathākṣara* forms, but in the other *āsārita-s* their respective *dvikala* or *catuṣkala* forms were applied. This means that the *yathākṣara* beat structure had to be modified according to the acquirements of *tāla* expansion, *inter alia* a *sannipāta* had to occur at the end. Let us first consider the second phrase. The *pañcapāṇi* pattern first had a *saṃ-tā-śa-tā-sa-tā* pattern of beats, but in the expanded form(s) it became *tā-śa-tā-sa-tā-saṃ*. This modification is theoretically possible by transposing the *sannipāta* from the beginning to the end.[392] In the medium *āsārita* the same result is achieved, though not by an internal transposition, but by a lateral transference of the entire phrase. With this 'move to the right' the original *sannipāta* at the beginning is ceded and the *sannipāta* from the following phrase adopted. This procedure of 'transference' may be applied *mutatis mutandis* to the third phrase. The only and most significant difference is that the *sannipāta* adopted at the end, is not from a following pattern, but the 'external' *sannipāta* that was added to the basic structure of the short *āsārita*.

---

[390] T. Kintaert (2000, 139 ff.) arrives at a similar conclusion, but he does not consider the idiosyncrasies of the *yathākṣara* and *ekakala*.

[391] These components are often made up of a *dvikala* or *catuṣkala* pattern; this means that they always end on a *sannipāta*.

[392] The occurrence of the *sannipāta* in a final position seems to indicate a development. The shifting of the most prominent beat is most interesting from a musical as well a musicological point of view, as one clearly notices a tendency to push the 'main beat' still further back, eventually even to the first beat of the following rhythmic cycle.

Let us now apply this same procedure to the first phrase, which appears to have nine *kalā-s* and five beats. This is certainly strange in view of what was expected,[393] *viz.* a *dvikala cañcatpuṭa* pattern of eight *kalā-s* and four beats. In the short *āsārita* the combination of beats employed (*i.e.* *śa-tā-śa-tā*) does not have a *sannipāta*, either at the beginning or at the end. But when the procedure of 'transference' is applied to the medium *āsārita*, a *sannipāta* is appropriated from the following phrase, and the beat at the beginning ceded to a preceding phrase. But as there is no preceding phrase, it follows that the initial *śamyā* is 'cut off' and 'excluded' from the suite. In this way the first phrase actually comprises only four beats. As a matter of fact, the structure that remains is indeed one that was expected, *viz.* a *dvikala cañcatpuṭa* pattern of eight *kalā-s* and four beats.

We now arrive at the central part of our analysis as I examine the possible reasons why this peculiar, lateral transference of one position forward took place. First of all, it should be noted that as a result of the transference discussed above, each phrase came to end on a *sannipāta*. This is not a matter of coincidence, but obviously the result of a general rule applied to the expanded states. While explaining the system of expansion, I have indicated at several occasions that the resultant patterns end on a *sannipāta*.[394] And usually the *sannipāta* occurring at the beginning of the *yathākṣara tāla-s* was transferred to the end. Here in the case of the medium *āsārita*, the same result is obtained, not by direct transference, but through the appropriation of a *sannipāta* immediately following.

Second, there is a practical reason, at least from a rhythmic point of view, *viz.* not to have the extra *sannipāta* at the end of the medium and long *āsārita-s*. For, if the extra *sannipāta* were allowed, the contingency of two *sannipāta-s* occurring side by side at the end of the suites, would arise. It should be recalled that in the expanded states each pattern always ended on a *sannipāta*. And if the extra *sannipāta* were added to it, one would have the awkward situation of two *sannipāta-s* occurring at the end of the *āsārita*. Theoretically this would be highly unwarranted because in the *āsārita-s*, *vardhamāna-s*, and their numerous components, we have thus far not seen two identical beats or silent gestures occurring side by side, though examples can be cited from other compositions.[395]

---

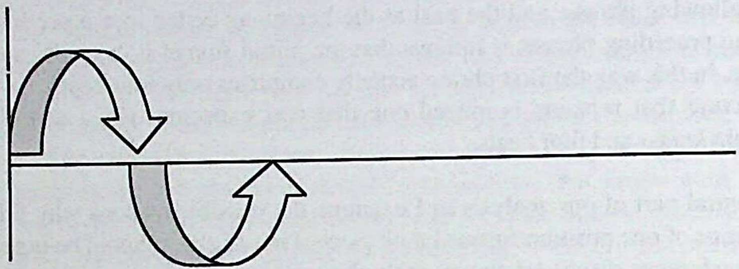
[393] Bharata seems to have been aware of the fact that the first *vastu* had a peculiar nature in the medium and long *āsārita-s*. In one place, he mentions that "the [first] phrase is different..." (v. 175 cd).

[394] The prominent nature of *sannipāta* seems to have crystallized into the general rule that prescribes its occurrence at the end of expanded *tāla* patterns. Since these patterns usually constitute many structural components (*aṅga*) of most of the traditional songs, these components, such as, for example, *vastu*, *pāda*, *śākhā/pratiśākhā*, etc., were also said to end on a *sannipāta*. Cf. KSS 31, 50ab, 54ab, 56cd, 62cd, 170cd, 171cd, 179ab, 182cd, 243ab, 244cd, 326ab, 333cd, 339ab, 345ab, 348cd, 372ab, 376cd, 382cd, 393ab, 404ab, 427cd, 430cd, 444cd, 458ab. See also Datt. 160ab *vastvante sannipātaś ca saptarūpavidhau sadā*.

[395] A similar situation occurs when *yathākṣara tāla* patterns with a *sannipāta* at the beginning are employed as structural components (*aṅga*) in the *gītaka-s*. As they usually precede a *dvikala* or *catuṣkala* pattern (which always ends on a *sannipāta*), two *sannipāta-s* thus occur side by side. In these situations it has to be assumed that in fact, the *ekakala* of that *tala* was used and not the *yathākṣara*, because like in other expanded states, its *sannipāta* is transposed to the end. See further, following section.

It is thus clear that these factors, perhaps along with others, resulted in the transference of the extra *sannipāta* (of the *yathākṣara āsārita*) to the front. In other words the initial *śamyā* of the medium *āsārita* now becomes the 'extra-structural' or 'free' beat, *i.e.* the beat that falls outside the basic structure and does not have a basis in time and space.[396] All this makes sense when the suite is conceived of as taking place in a recurrent cyclic manner, best displayed by a spiral movement or a helix:

Fig. 2 Helix representing cyclical or spiral progression of the *āsārita-s*.



The first phrase of the medium *āsārita* thus begins with *śamyā* and ends with *sannipāta*, whereas the 2nd and 3rd phrases begin with *tāla* but also end with *sannipāta*. What strikes one immediately is that the *sannipāta* that concludes the suite, coincides with the initial *śamyā*. Note that this feature represents the anomalous factor in the medium as well as the long *āsārita-s*.

From the investigation of the *āsārita*-hypermeasures, some conclusions may be drawn about the relative position of the last *sannipāta*. 1) Unlike the other beats, which were performed with one hand, the *sannipāta* was executed with both hands - either struck together or at the same time and presumably on the thighs. Because of the effect ensuing from the special effort, one may assume that it was most probably the strongest beat; 2) Its occurrence at the 'end' was perhaps to mark or emphasise the completion of the pattern. 3) In the short *āsārita*, it seems to be situated 'outside' the pattern, but in the medium *āsārita* it has been integrated into the second (complete) *pañcapāṇi* pattern and thus forms an inseparable part of the suite. 4) The inclusion of an 'external' beat to the *āsārita* cannot be without consequences to its structure because it raises the number of beats to seventeen, whereas a study of the the *āsārita* type shows that it is basically a 'sixteen beat' composition. Its mode of expansion progresses by multiplying the latter successively with a factor 1, 2 and 3, but each time an additional beat is *seemingly* added so that the pattern *appears* to have an uneven nature. 5) The same number of beats is retained in the medium *āsārita*, but the initial *śamyā* has now become the 'extra structural' beat. In fact, it anticipates the approaching *sannipāta* - the apparent seventeenth and extra-structural beat. In practice, the first beat (*i.e.* a *śamyā*) of a following cycle provides structural base, which the *sannipāta* misses! In other words, both beats coincide: the *śamyā* is substituted by the *sannipāta* downbeat. 6) My interpretation thus resolves the issue of the *sannipāta*, the enigmatic seventeenth beat, but also that of the superfluous *śamyā* at the beginning of the expanded suites. The persistence of the relatively dominant *sannipāta* thus neutralises the value of the initial *śamyā*. The latter apparently only played the role of a transitory beat that opens the helix, but once the latter was initiated, the *sannipāta* took over that role. This substitution restores the original structure: the anomalous pentasyllabic structure is reduced to the regular tetra syllabic *cañcatpuṭa* pattern. 7) These findings support the hypothesis that like the short *āsārita*, the medium and long variants appear to have been performed in a spiral fashion, because the *sannipāta*, the seventeenth beat, does not fall outside the structure, but constitutes the downbeat, the most essential and central beat. 8) The *coincidence* of the *sannipāta* with the *śamyā*, was obviously designed to indicate that during a cyclical performance the first and last beats were one and the same beat, at least in the first cycle. All indications thus strongly suggest a spiral nature for the *āsārita-s*.

---

[396] See above n. 386.

4.6 The issue of a *dhruva* beat (II)[397]

A notable problem concerns the mention of four audible beats in *tāla* cheironomy, whereas only three are properly explained. Accordingly, scholars, both ancient as well as modern, usually reckon with eight *tāla* gestures, even with regard to the NŚ, because they follow the tradition set by the Abhinavabhāratī and Saṅgītaratnākara. Since Dattila does not mention the *dhruva* as a fourth beat, and acknowledges only seven gestures by means of which time measurement takes place (see above, n. 63), I have argued that the mentioning or 'description' of *dhruva* in the earliest period, and the NŚ in particular, is questionable (see above, § 1.1.2). *Dhruva* evidently derives from a relatively younger method of marking musical time in which each *kalā*-unit was accompanied by a steady beat (*dhruva*). Since this beat has been mentioned in our text, I shall next examine how it was envisaged in the post-classical tradition.

When the stray statements in the NŚ are discarded for a while, then *dhruva* is, in fact, described for the first time in the Abhinavabhāratī[398] and Saṅgītaratnākara.[399] It seems to represent a clap or beat of the hand (*pāta*) that is *preceded*, or perhaps *accompanied*, by a snap (with the thumb and middle finger) (*choṭikāśabdapūrvaka*).[400] Note that without the distinguishing qualification of the finger snap, *dhruva* could hardly be distinguished from the three existing audible beats.[401] The nature of this beat is nevertheless complex and on that account perhaps different from the other audible beats. First of all, it is not clear whether the characteristic finger snap literally 'precedes' or perhaps 'coincides' (*°pūrvaka*) with the stroke of the hand that constitutes the basis of *dhruva*, and second, whether this basic stroke coincides with that of a following beat such as *śamyā*, etc.

The literal meaning of the word *°pūrvaka* is perhaps not intended, as attested to by the testimonies of at least two medieval authors, who consistently interpret it as an adverb or indeclinable that indicates the idea of simultaneity or coincidence.[402] Siṃhabhūpāla (14th century), for example, explains *dhruva* as a 'downward' movement of the hand that is

---

[397] See above, §§ 1.1.2 and 2.6.3 where the same problem is discussed, though from different angles.

[398] A.Bhā. on NŚ 31, 38 (p. 172, ll. 24-5): [...] *yaḥ pātaś choṭikāpūrvakam adhogamanaṃ, tasyā lakṣaṇabhūtā(yā) dhruvo nāma lakṣaṇabhūtaḥ syāt.*

[399] SR 5, 9 ab *dhruvo hastasya pātaḥ syāc, choṭikāśabdapūrvakaḥ*

[400] Kumbhā considers *dhruva* a proper beat that, like the other beats, has been defined in terms of 'fixed hand movements'. S.Rāja 3.3.1.65c *dhruvo niyatahastaḥ syād.*

[401] Rowell too concludes that '*Dhruva* is the most neutral of all [beats] and plays an insignificant role in the delineation of form.' (1992, 194)

[402] Cf. MW Dict. p. 645 s.v. *pūrvaka* 'ifc. also = preceded or accompanied by, connected with, consisting in; *am*, ind. = after, with'.

accompanied by the sound of a finger snap (*tadśabdavato*).[403] Kumbhā (15th century) describes *dhruva* in a similar way, but adds that the two separate actions and sounds of the finger snap and hand stroke are *not separate* (*viśleṣavarjita*).[404] However, Kumbhā is ambiguous because in the ensuing discussion he also seems to suggest or accept an element of precedence of the *dhruva* beat.

In his enumeration of beats and gestures Kumbhā, in a way, indicates how *dhruva* relates to the other beats and gestures (S.Rāja 3.3.1.33-4). He reiterates that first the silent gestures have been mentioned and then the audible beats.[405] Since *dhruva* is (mentioned) first in the list of audible beats (lit. 'all beats follow it'), Kumbhā suggests that [in practice] *dhruva* occurs before *śamyā* and the other audible beats.[406] He further implies that it does not precede silent gestures.

In the absence of proper explanations we may speculate on the possibilities of how *dhruva* may have been coordinated with the other beats. It was either performed independently,[407] or integrated with the other beats.[408] The second possibility is not easy to envisage and I shall try to elucidate it according to Kumbhā's explanation which seems to blend both ideas; *dhruva* is presented as a separate beat, but at the same time, as one that is based on the other beats. For understanding Kumbhā, we should recall the distinction between the components of *dhruva*: (1) the characteristic finger snap and (2) the basal stroke of the hand. The first component cannot be assimilated with other beats as it represents the identity of *dhruva*. The second component, on the other hand, is a general stroke that can be assimilated with any of the basal strokes of other beats. So when it is assumed to coincide with its counterpart in another beat, one can conceive of *dhruva* as the *accompanying* finger snap that is executed simultaneously with the fundamental stroke of *śamyā* and *tāla*, because one hand can make the beat and the other the snap. However, this procedure does not apply to *sannipāta* because both hands are involved in the beat so that none can make the finger snap simultaneously.

As indicated by Kumbhā (see above, n. 406), *dhruva* was not a fully independent beat, because its slap of the hand was assimilated with that of other beats (*pāta*). Nevertheless, the characteristic finger snap emerged clearly as a steady, additional and audible qualification of those beats. The question that remains, is why Kumbhā sanctioned only the audible beats to be accompanied by *dhruva* beats and not the silent gestures. Why should beats that were already audible, again be reinforced audibly? This would appear meaningless, unless the silent gestures too were reinforced audibly by *dhruva* snaps. One usually refers to SR 5, 15ab *dhruvapāte prayojyās tā nāvāpādau kadācana*, to corroborate the assertion that silent gestures were as a rule never accompanied by *dhruva-s*. However, there Śārṅgadeva does not prohibit the accompaniment of silent gestures, but that of another set of eight rather simple gestures called *mātrā-s* (SR 5, 12-6).[409] Kumbhā reconfirms that this new set of gestures were to accompany the *dhruva* beats,[410] but never the silent gestures.[411]

---

[403] See Sudhākara on SR 5, 9 ab *choṭikā aṅguṣṭhamadhyamāṅgulītalasaṃyogena śabdotpādanam, tadśabdavato hastasyādhonayanaṃ dhruvaḥ ity ucyate.*

[404] S.Rāja 3.3.1.44 *dvayor ekatarasyātra choṭikā śabdapūrvakam, pāṇeḥ saṃpātanād ukto dhruvo viśleṣavarjitaḥ*. The same idea is reflected in Saṅgītasarvasvam (cited in Bharatakośa p. 299): *sarvapātasthitatvāc ca viśleṣābhāvatas tathā | karasya dhruva ity uktaḥ*

[405] S.Rāja 3.3.1.39ab *niḥśabdāḥ pūrvam uddiṣṭāḥ pātās tu tadanantaram*

[406] S.Rāja 3.3.1.39cd-41ab *sarvapātānugāmitvāt tatra syāt prathamaṃ dhruvaḥ, śamyā ... tadanantaram, tadanantaras tālo ..., ... sannipātas tato bhavet*

[407] At one point Kumbhā suggests that *dhruva* is an independent beat that precedes *śamyā* and other beats. Cf. S.Rāja 3.3.1.68ab *dhruvaḥ śamyādyanugataḥ svātantryeṇa vivakṣitaḥ*

[408] Kumbhā rejects the view that *dhruva* should be considered separate from the very beats it originates from. S.Rāja 3.3.1.67 *dhruvas tebhyo bhavan brūhi kathaṃ pārthakyam arhati, naivaṃ śamyādayo yasmāc caturasrānugāminaḥ*. See also vv. 58-60 where it is said that *dhruva* could be replaced by *śamyā* or *tāla* when it is conceived as an 'unspecified' beat (*aniyatapāta*).

I have already discussed above (in § 2.6.3) that the separate employment of *dhruva* beats (at every *kalā*) might have been introduced to mark the given tempo of a performance, whereas the other beats marked its rhythm. Some scholars believe that the *dhruva* finger snaps provided additional control of slow tempos.[412] The meticulous maintenance of irregular series of gestures and beats was presumably not an easy task, especially because in the slow tempos the frequency of silent gestures could become much higher than that of audible beats (see section 6.5). By their very nature, the silent gestures required extra concentration and alertness on the part of the musicians, singers or dancers to coordinate their individual performance, because a slight flaw in that regard could have dire consequences for the entire performance. In this respect it is conceivable that additional reinforcement of at least the silent gestures must have been felt necessary, but due to practical considerations, this was done audibly.[413] This necessity perhaps explains, at least from Śārṅgadeva's point of view, why, for example, the eight morae in a *kalā* unit of time in the slow tempo (and thus in the *dakṣiṇa* style), were marked with the same number of so-called *mātrā* gestures such as *dhruvakā, sarpiṇī, kṛṣṇā*, etc. (see above, n. 409). I further indicated (in § 2.6.3) that the main objective of the *dhruva* beat was to mark the *kalā-s*, and not their constituent *mātrā-s*, because in the former case the tempo or pace of the performance was manifested, whereas in the latter case no practical purpose was served, except that each and every mora was marked.

4.7 *Tāla* cheironomy and polyrhythm

Note that immediately after the first beat of each series follows an alternation of *śamyā* and *tāla* beats or *vice versa*. The alternation of right (*śamyā*) and left hand beats (*tāla*) is most clearly visible in the last two series. One may question whether the steady alternation served some practical purpose, or was simply commanded by the physical limitations of the human body. It anyway appears too far-fetched to assume that the alternation of left and right hand strokes was designed to create polyrhythmic effects.[414] First of all, *tāla* cheironomy was not concerned with embellishing the performance with contrasting rhythms, but with the meticulous measurement of time. It was the percussion instruments, and the drums in particular, which were assigned the specific function of (measuring as well as) embellishing the performance with, *inter alia*, rhythmic variation, polyrhythmic exercises, and so on (see further § 5.5). The interaction of several simultaneous rhythms contrasting with one another, so characteristic for polyrhythm, is also observed in Vīṇā ensembles. Bharata describes various styles of playing (*karaṇa*), such as, for example, *rūpa* and *ogha*, where different Vīṇā-s play different structures in different tempos.[415]

---

[409] Viz. *dhruvakā, sarpiṇī, kṛṣṇā, padminī, visarjitā, vikṣiptā, patākā* and *patitā*. See further SR 5, 12-6 and S.Rāja 3.3.1.72-82.

[410] Including the other three audible beats, according to Kallinātha (Kalānidhi to SR 5, 12-15ab, p. 7 *dhruvapāte dhruvādipāte saśabdakriyāyām ity arthaḥ*).

[411] S.Rāja 3.3.1.76ab *nāvāpādiṣu tenemāḥ prayojyāḥ syuḥ kathañcana*

[412] Cf. Rowell 1992, 194.

[413] Note that in this respect the introduction of percussion instruments, and that of idiophones in particular, has proven its value (see § 3.1).

[414] As for example, Thomas Kintaert, who, noticing certain patterns in the left and right hand strokes, argues in favour of polymetrical structures for most of the *mārga tāla-s*. See Kintaert 1997, 15-29 and 2000, 119-51.

[415] Cf. NŚ (BI) 29, 114-17 and SR 6, 115-23.

The scope for polyrhythmic effects, if any at all, must indeed have been very limited in the performance of *tāla* gestures. The fact that the left and right hand strokes are phased, certainly creates possibilities for polyrhythmic effects, but they are not distinguished audibly from each other, but only visually; therefore their effects must have been minimal. So any audible contrast that could arouse a sense of contrast or polyrhythm seems almost negligible, as is clearly perceivable from the dull and monotonous sequences in Śamyādi and Tālādi.[416] However, this monotony is broken in the Sannipātādi sequence where the powerful *sannipāta* stroke creates a clear contrast with the other beat. This effect perhaps explains Bharata's predilection for cheironomical suites beginning or ending with *sannipāta*. The same predilection is further attested to in the application of the *sampakveṣṭaka tāla* where the Sannipātādi sequence seems to be preferred above that of Tālādi, prescribed initially by the author (see vv. 22cd-23). It is therefore my contention that the idea of polyrhythmicality in the basic *tāla* patterns is purely theoretical and cannot be proven unless one could show that left and right hand strokes were also distinguished audibly, say in terms of intensity and possibly reinforced by accompanying drum strokes.

5. *Tāla* and percussion instruments (*ghana* & *avanaddha*)

5.1 Introduction

In the following paragraphs, among other things, I explore the relationship between *tāla* cheironomy and the other percussion instruments. I also explore the special relationship assumed to exist between NŚ 31 and the *ghana* instruments. Further, I focus on the different functions of *ghana* and *avanaddha* in relation to rhythmic organisation, because the ancient sources do not provide clues or criteria to distinguish them. In that respect Abhinavagupta offers interesting criteria that help in understanding their distinct roles as organising factors. He makes clear that *ghana*, with its limited scope of sound, had only a rhythmic function, whereas *avanaddha*, with a much wider tonal scope, also had an additional function, *viz*. that of an aesthetic agent, because with its appealing sounds, improvisations, and interaction with the other members of the ensemble, it contributed in embellishing the performance. For a full discussion of this particular function of the percussion instruments as well as their unique capability of achieving balance (*sāmya*) during a performance, see further § 7.3.3.

5.2 The late occurrence of *ghana:* a music-historical perspective

A problem that needs to be addressed here is why the treatment of *ghana*, an important section of *tāla* instruments, has been neglected, if not abandoned altogether in the NŚ. In fact, our main source mentions the *ghana* family of musical instruments only four times, three of them along with *tāla*, a pair of cymbals, as its representative member (see NŚ [KM edn.] 6, 30; 28, 2; 31, 1 and 34, 31).[417] It is my contention, as I try to prove in the following paragraphs, that the mention of *ghana* and *tāla* in those places is 'suspect' and most probably inserted in the text only to comply with the codification and systematisation of musical instruments into four classes in later times.[418] If my assumption proves correct, follows that at the time the NŚ was compiled, cymbals were not yet recognised or accepted as musical instruments. In other words, the group of idiophones (*ghana*) as the fourth division of musical instruments may have been recognised as a separate group only when one of its members, *viz.* the cymbals, bells, etc., gained enough popularity around the mid-first millennium CE. This hypothesis is not to deny the presence or application of other types of idiophones in early times, such as, for example, those made of iron (*loha*), wood (*kāṣṭha*), ivory (*viṣāṇa*), etc., but only concerning brass cymbals (*kāṃsya-tāla*).[419]

---

[416] Other sources seem to corroborate the view that these two sequences were not very popular. At least Dattila and Śārṅgadeva indicate that Śamyādi and Tālādi were no options for *cācapuṭa*, one of the most popular *tāla-s* in ancient times. See further § 6.3.4.

[417] In KM 34, 31 *tāla* is not mentioned, but all four kinds of musical instruments are referred to as in KM 6, 30 and 28, 2.

In this regard, I review the available art-historical, musicological and archaeological evidence for examining the presence or absence of idiophones during the time the NŚ was compiled. It may be stated beforehand that the following discussion shows that Bharata's negligence of this category of musical instruments may indeed be explained by its rather late appearance as a musical instrument on the Indian scene, as attested to by early literature and the plastic arts.

Fully in compliance with the importance generally accorded to rhythmic organisation (*tāla*), Bharata devotes two whole chapters (*viz.* NŚ (31 and 33) to outline its formal aspects. While drums and the art of drumming have been discussed separately in ch. 33, and *tāla* cheironomy in ch. 31, one wonders why the formal aspects of idiophones (such as construction, varieties, performance, mnemonic syllables, etc.), have been ignored, especially when from a music-historical point of view they may be considered as the oldest form of (percussion) instruments.[420] Moreover, as discussed in the following section, NŚ 31 seems to have originally been planned to deal with the idiophones, but remains silent on them, though parts of its contents may well relate to idiophones.

On other occasions where the NŚ mentions musical instruments and their configurations on the stage (*kutapavinyāsa*), as a rule it remains silent about the idiophones.[421] For example, when the idea of music ensembles (*kutapa*) is introduced,[422] mention is made of a singer (*gāyana*) and his attendants (*saparigraha*), which comprise a Vipañci player, a Vīṇā player, a Vaṃśa player, a Mṛdaṅga player, a Paṇava player and a Dardura player, but nothing is said about someone handling cymbals. Abhinavagupta evidently noticed the problem of the 'missing cheironomist' and tried to resolve it (1) by ascribing this position to one of the attendants, which as suggested by the editor, might have been the singer's wife;[423] and (2) by interpreting one of the drums, *viz.* the Dardura as a large bell or gong (*mahā-ghaṇṭā*).[424] Since the opening verses of NŚ 28 mention four classes of musical instruments, including the idiophones, he seems to have been surprised by Bharata's silence about them and thus understandably tries to imply their presence, by arguing that since brass-cymbals have the function of establishing evenness (*sāmya*) between singing and instrumental music, their presence in the orchestra is fully justified.[425]

---

[418] Since all extant NŚ Mss. support the 'suspect' readings that mention four classes of musical instruments, textual criticism does not help much to prove my point. We may now consider other means such as internal, historical, musicological and archaeological evidence to examine the suspect position of cymbals in the earliest period.

[419] Some Buddhist sources reckon with 'knockers' made of different materials, viz. *loha-tāḷa*, *kaṭṭha-tāḷa* and *visāṇa-tāḷa*. See R. Davids' *Pali-English Dictionary*, p. 300 s.v. *tāla*^{2}.

[420] Cf. Curt Sachs 1962, 92.

[421] Cf. KSS 5, 17; 28, 4-6; prose passage after 33, 205 (cf. GOS IV, p. 449). The arrangement of musicians and their instruments on the stage constitutes *pratyāhāra*, the first element of the theatrical preliminaries of ancient Indian drama (*pūrvaraṅga*). The following phase, when the female singers enter the stage, is called *avataraṇa* (cf. GOS 5, 17cd).

[422] For a discussion of *kutapa*, cf. G.K. Bhat 1975, LV f., n. 136

[423] Cf. A.Bhā. on NŚ 28, 3-5 *parigraho gāyakasya* (*bhāryā*), *tad yathā kāṃsyatālikāhastād.* Elsewhere, where the NŚ elaborates on the configuration of musicians on the stage, the (male) singer is mentioned along with female singers (cf. prose passage after KSS 33, 205 *gāyaka-gāyikā°*).

Even though the *tāla* cheironomists are not mentioned in the orchestra either, we may assume by implication that the singer himself or herself was responsible for beating time. Moreover, the female singers (*gāyikā*), mentioned among the attendants of the former (see above, n. 423), appear to have had that function, as repeatedly represented by depictions on early reliefs at Bhārhut and other places (see above, n. 351).

Studies of musical instruments, in particular those in the plastic arts, consistently indicate that there is relatively little evidence of cymbals and gongs in ancient India.[426] It is only from the first and second centuries CE onwards that the first portrayals of these instruments are found in paintings or sculptures. Apart from the depiction of a frame drum on a seal from the Indus Valley (3rd millennium BCE), there is no hard evidence for the presence of other musical instruments.[427] Subsequent information from the north of India comes more than a thousand year later with the Ṛgveda (ca. 1500 – 1000 BCE), the religious hymns of the Aryan invaders. Sachs further reports that the Ṛgveda mentions four instruments: *āghāṭi* (an accompaniment instrument), *bakura* (a shell trumpet), *gargara* (a horizontal arched harp) and *vāṇa* (a horizontal cane flute).[428] The absence of a direct reference to drums in this list suggests a break from the Indus Valley period where this category of instruments appears to be represented. Sachs seems to have overlooked the fact that the Ṛgveda mentions the *dundubhi*,[429] a war-drum usually associated with the proclamation of royal victory (*jayaghoṣa*), at least four times.

The obscure term *āghāṭi* in the Ṛgveda,[430] probably of non Indo-European origin (Bodewitz 1982, 12 f.), obviously denotes a musical instrument, but of what kind, is still a matter of scholarly debate.[431] Bodewitz correctly indicates that the ultimate interpretation of

---

Abhinavagupta (on NŚ 5, 17) further cites lines from the NŚ to emphasise the value of female singers *vis-à-vis* that of their male counterparts (cf. GOS 33, 5-6).

[424] A.Bhā. on NŚ 28, 3-5 *darduro mahāghaṇṭākāraḥ*. Note that in the chapter on musical instruments (which is primarily on drumming), the NŚ is clear about the nature of *dardura* (or *dardara*) as a drum (cf. GOS 34, 2; 9; 11; 15; etc. and Ghosh, Transl. II, p. 2, n. 6 on vv. 4-5). In a similar way Abhinavagupta explains another drum, *viz.* the *jhallarī* as a cymbal (A.Bhā. on NŚ 34, 12, p. 405 *jhallarī kāṃsyatālam*), whereas the text clearly considers it as belonging to the class of covered instruments (cf. GOS 34, 12 cd *jhallarī-paṭahādīni carmanaddhāni*) and mentions it in a list of secondary drums (v. 15cd *jhallarī-paṭahādīni pratyaṅgāni*). See also Ghosh, *op. cit.*, p. 162, n. 1 on v. 13.

[425] A.Bhā. on NŚ 28, 3-5 *kāṃsyatālikās tu gītavādyayoḥ sāmyasampādanārhāḥ, tatkutapa eva yuktāḥ.*

[426] See above, n. 342.

[427] Cf. Sachs 1940, 151 f. This only proves that drumming and on that account, some idea of rhythm was already present at the cradle of Indian civilization.

[428] Sachs *op. cit.*, p. 152 f. Sub voce *āghāṭi* ṚV 10, 146, 2; *bakura* 1, 117, 21; *gargara* 8, 69, 9 and *vāṇa* 1, 85, 10; 9, 50, 1. The Ṛgveda further mentions a kind of harp, *karkarī* 2, 43, 3. The Atharvaveda also mentions *āghāṭa* (4, 37, 5) and *karkarī* (4, 37, 5; 20, 132, 8).

[429] Ṛgveda 1, 28, 5 and 6, 47, 29-31.

[430] ṚV 10, 146, 2 *vṛṣāravāya vadate yad upāvati ciccikaḥ, āghāṭibhir iva dhāvayann araṇyānīr mahīyate.*

[431] Cf. H.W. Bodewitz 1982, 3-15 and Chaitanya Deva 1987, 48.

the word may depend on the guesswork of the translators and assumed etymology (1982, 11 f.). So, the question whether or not it denotes drums (Thieme and others) or a stringed instrument (Bodewitz and others,[432] has to be put aside for the time being. But of some interest for the present discussion is that neither Sachs (1940, 152 f.) nor Bodewitz (1982, 13) see any reason to interpret *āghāṭi* or its variants in the sense of a 'clapper', 'cymbal' or 'rattle'. We may thus conclude that there is indeed no compelling evidence for the presence of idiophones such as cymbals in ancient times,[433] for, as indicated above, cymbals and gongs occur on the Indian scene much later.

From the subsequent period of the ritual *sūtra-s* (ca. 500 – 200 BCE),[434] for the first time we obtain references to the application of harps and drums in the various situations of the *śrauta* rituals.[435] Apart from the mention of newer types of harps,[436] we are told that (during the Gavāmayana sacrifice) men play on *dundubhi* drums from the (four) corners of the *sadas* shed of the sacrificial ground.[437] At the west of the place where a sacrificial fire is kindled, a pit in the ground is covered with an animal hide with the tail still intact, and men beat on it with that tail.[438] The commentator calls this primitive ritual drum a *bhūmidundubhi*, i.e. an 'earth-drum'. During the Vājapeya ritual seventeen chariots were yoked and the same number of drums arranged near the altar. When the chariots were mounted, the *sāman* were sung, the drums beaten and the oblations offered.[439] The simultaneity of singing and drumming indicates that in this period the latter was already applied to accompany the former. Even though the presence of drums and other instruments in Vedic times is evident, little is known about their ritual and musical function during those rites.

The first unmistakable references to members of the *ghana* family of instruments occur in the epics, the Rāmāyaṇa and Mahābhārata. The latter work (ca. 4th century BCE), for example, describes in one instance (7, 82, 6 ff.) a royal procession that is adorned, among other things, with the sound of bells (*ghaṇṭā*) hanging from the necks of elephants (Kaufmann p. 48). A similar scene with elephants and bells is depicted on a relief from Bhārhut (ca. 200 – 100 BCE) (cf. Abbildungen 6 and 7, Kaufmann p. 49). Another relief from Amarāvatī (ca. 200

---

[432] Cf. Sāyana who explains *āghāṭi* as *ghāṭalikā* and *kāṇḍavīṇā*, i.e., varieties of the Indian harp or lute.

[433] Mayrhofer's straightforward acceptance of *āghāṭi* as an a cymbal is not convincing (cf. KEWA I *āghāṭáḥ* p. 70; KEWA III *hánti*, pp. 575-7; EWA I *āghāṭá*, pp. 159 f.), not only because of the art-historical arguments against its early occurrence in India, but because of the phonological arguments in favour of considering it as a drum. In this respect I follow Uhlenbeck (1898, 20) who considers *āghāṭá* as a musical instrument (that is struck). He compares the word with *dārvāghāṭa* (the woodpecker in which the dental *t* seems to have been replaced by the middle Indic *ṭ*, leading later on to a reversal of the situation in words such as *dundubhyāghāṭá* (ŚB) and *āḍambarāghāṭá* (one who beats a drum, Vājasneya Saṃhitā xxx, 19). On the other hand, Mayrhofer agrees in accepting *āghāṭá* as a dialectic form of *āghātá* (KEWA I p. 70).

[434] Cf. J. Gonda 1977, 476-9.

[435] For references, *op. cit.*, p. 623, n. 9.

[436] The Kātyāyana-Śrautasūtra (KŚS), for example, mentions newer types of harps, such as *godhāvīṇā* and *kāṇḍavīṇā* (13, 3, 17-8), and singing accompanied by harps is called *vīṇāgāthā* (20, 2, 7 f. *vīṇāsaṃgataṃ gānaṃ vīṇāgātheti śruteḥ*). Those singing with a group of harps were called *vīṇāgaṇagina* (20, 2, 3 f.)

[437] KŚS 13, 3, 15 *sadaḥsraktiṣu dundubhīn vādayanti.*

[438] KŚS 13, 3, 13 *āgnīdhram apareṇa śvabhraṃ savāladhānena carmaṇāvanahya vāladhānenāhanti.*

[439] KŚS 14, 3, 13 – 4, 2 *saptadaśa dundubhīn āsajati ...brahmā triḥ sāma gāyati, trisāmagānaṃ karotīty arthaḥ, dundubhīn vādayanti.* See further K.P. Singh 1969, 98 f.

CE) shows a dancing *yakṣa* figure with a hand bell or *ghaṇṭā* in his right hand (cf. Abbildung 51, Kaufmann p. 95).[440] These facts contradict Sachs' doubts about the relative antiquity of the Indian hand bell (see Sachs 1940, 222) and even push the lower limit of the *ghana* instruments back to as early as the fourth century BCE.

Next to the textual evidence from the epics, concrete evidence of musical instruments and their performance practice occurs for the first time from the Śuṅga period (c.a. 2nd – 1st centuries BCE). The musical scenes on the temple reliefs at Bhārhut depict ensembles that may be assumed to be especially representative for early Indian orchestras. Of the seven or eight female musicians (*apasaras*), two play on harps, two on drums and the remaining three or four clap their hands and are probably also engaged in singing. What immediately strikes one in these early reliefs is that cheironomists and drummers fully occupy the rhythmic section, whereas cymbalists or musicians handling other idiophones are almost, if not completely missing.

Even though brass cymbals are absent, the application of other types of idiophones in the Śuṅga period cannot be denied completely. For example, on Abb. 3 (Kaufmann p. 43) the midmost figure, flanked by two clapping figures, appears to hold an object in her left hand, perhaps a *daṇḍā,*[441] or wooden concussion stick ('Schlagstäbe' Kaufmann, pp. 31 and 42). More evasive is Abb. 4 (Kaufmann p. 45) where four figures seated in a 'circle' or face-to-face behind two drummers, appear to be clapping their hands (Kaufmann p. 44). While three of them are visibly engaged in clapping their hand, the action of the fourth one is not (fully) discernable because she is depicted with her back turned towards us. As she is not overtly associated with an instrument, it should not be ruled out that she represents a singer. On a partly clearer reproduction of the same relief in Marcel-Dubois' work (Pl. XXXIII, 2), she appears to hold a round but indefinable object in her left hand.[442] Similarly, other claims of early depictions of cymbalists are hard to distinguish from cheironomists clapping their hands.[443] However, later sources corroborate the idea that the main singer should have (at least) one assistant singer-cum-cymbalist (*kāṃsyatāladhara*), who could help warding off mistakes, etc.[444]

So even though the *ghana* family of idiophones is well represented in ancient times by certain members of it such as elephant bells and smaller hand bells (and even by children's rattles during the Indus Valley period), instruments such as cymbals and gongs are not attested to, until the first representations towards the turn of the Common Era. While some scholars maintain that the first cymbals in India occur around the fifth century CE,[445] Kaufmann convincingly shows that this limit may easily be pushed a few centuries back, as attested to by a pillar relief in Mathurā (1st - 3rd centuries CE), depicting a female cymbalist accompanying a male harpist.[446] However, another pillar from Mathura (preserved at the Bhārata Kalā Bhavan, Varanasi, Nr. 21767)[447] depicting a cymbalist accompanying a flutist, is gauged to be "möglicherweise noch vor unserer Zeitrechnung oder wenig danach entstanden" (Kaufmann, p. 132). This early date is not surprising, as there are numerous early references to cymbals (*tāla*) in, e.g., (the later portions of) the Mahābhārata, the Mṛcchakaṭikā, the Śilappadikāram (ca. 1st CE), as well as depictions on ivory from Begrām (ca. 1st – 2nd centuries CE, Kaufmann, p. 88), etc.

---

[440] The Greco-Syrian philosopher, Bardesanes (ca. 2nd century CE) reports on the sounding of the Indian hand bell during the worship of Hindu divinities. See further Sachs 1940, 222.

[441] This Hindī word is derived from Sanskrit *daṇḍa.*

[442] Because of such obscurities scholars without specialization in the organology of musical instruments, might easily misinterpret the cast and their instruments. K. Vatsyayan, for example, mistakes the hourglass drum (on the left of the first row below) for a pair of cymbals (1968, 292). For a detailed discussion of this relief, see Kaufmann, p. 44 (cf. p. 42).

[443] For doubtful identifications of cymbals in early reliefs, cf. Kaufmann pp. 56 (Abb. 16-7), 88, 96 (Abb. 53), 100 (Abb. 56) and 114 (Abb. 70).

[444] Cf. SR 5, 38cd f.:
gāndharvamārgakuśalaḥ kāṃsyatāladharo 'paraḥ ||
gātuḥ sahāyaḥ kartavyaḥ pramādavinivṛttaye |

[445] I.e. on the temple relief at Garwhā. Cf. Sachs 1940, 222 and Marcel-Dubois p. 31.

All these evidences seem to point to the fact that cymbals (*tāla*), a representative member of the idiophone family, were introduced as musical instruments somewhere around the first century CE. The question that immediately arises is why this happened so late, when the Indian people were already familiar with the application of metals in the Indus Valley and Vedic periods. The only explanation one can offer, is perhaps that of a practical nature. Since cymbals have to endure heavy strains as they are often clashed with considerable force, the quality of the metal had to be good. It was perhaps the existence of shortcomings in this regard that prohibited the cymbals from appearing much earlier as suitable musical instruments. It seems that some early writers on India, such as, for example, Megasthenes, Nearchus and Strabo, agreed with one another with respect to the state of development of metallurgy in India.[448] One learns from their reports that the technique of winning and processing metal, from a European point of view, still appeared imperfect "und dass man nur gegossene, nicht aber gehämmerte Bronze verwendet habe, so dass die Metallgefässe ebenso zerbrechlich waren wie Tonkrüge."[449] To verify this statement one would in fact have to investigate whether in that time there existed techniques for improving the alloys by heat treatments or mechanical treatments such as hammering, etc. This situation described above at least explains why the Rāmāyaṇa mentions metal utensils and other objects made of white-copper, bell metal or brass (*kāṃsya*),[450] but no cymbals made of them (*kāṃsya-tāla*). These facts along with the historical position of the Rāmāyaṇa seem to indicate that at the time of the composition of the text, cymbals were not yet accepted as musical instruments, though other forms of idiophones, such as for example, concussion sticks, etc., were commonly used.[451] Even vivid or exhaustive descriptions of musical situations[452] omit the mentioning of cymbals.[453] One particular instance in the Mahābhārata where *kāṃsya-tāla* is mentioned is most probably of later origin as it is omitted from the critical editions.[454] Considering these facts, one cannot but conclude that even in the epics, at least in their earlier portions, cymbals were not yet prevalent as regular musical instruments.

---

[446] See Kaufmann, p. 133, Abb. 88.

[447] *Op. cit.*, p. 132, Text illustrations 1 and 2.

[448] Kaufmann, p. 64.

[449] *Ibid.*

[450] The word *kāṃsya* occurs only twice in the Rāmāyana, but each time it does not relate to cymbals: *kāṃsyadohana* 'a copper milk-pail' (1, 72, 23) and *haima-rājata-kāṃsyānāṃ bhājanānāṃ* 'vessels made of gold, silver and copper' (4, 50, 34).

[451] These wooden sticks, or *daṇḍā* in Northern India, were used during dance and struck in varying rhythmic patterns. Cf. Rāmāyaṇa 2, 91, 49-50.

[452] Cf. Rāmāyaṇa 4, 28, 36-7 (cited by Jaidev Singh 1994, 156):
ṣaṭpādatantrīmadhurābhidhānaṃ plavaṅgamodīritakaṇṭhatālam |
āviṣkṛtaṃ meghamṛdaṅganādair vaneṣu saṃgītam iva kṛtam ||
kvacit pravṛttaiḥ kvacid unnadadbhiḥ kvacic ca vṛkṣāgraniṣaṇṇakāyaiḥ |
vyālambabarhābharaṇair mayūrair vaneṣu saṃgītam iva kṛtam ||

These verses are omitted from the critical editions because the content and style of the entire *sarga* suggest interpolation. Cf. R. Lefeber 1994, 271. The mention and description of *saṃgīta* here is certainly problematic because the combined notion of music, dance and singing occurs for the first time about thousand years later. Cf. SR 1, 1, 21cd.

[453] Cf. Rāmāyaṇa 2, 91, 49-50 (= 2, 85, 46-7 of J.D. Smith's Electronic version):
2085046a *bilvā mārdaṅgikā āsañ śamyāgrāhā bibhītakāḥ*
2085046c *aśvatthā nartakāś cāsan bharadvājasya tejasā*

Noticing the relatively late occurrence of cymbals in India, Sachs, Marcel-Dubois and Kaufmann arrive at more or less the same conclusion, *viz.* that along with other instruments, some idiophones also seem to have a foreign origin. First of all, Sachs concludes that cymbals might have been introduced by the invading Huns.[455] Although he does not clarify this point he seems to base himself entirely on the manner of playing cymbals depicted on Hindu-Javanese reliefs at Borobudur,[456] which he assumes to have come from 'East Turkestan',[457] i.e., from the north. But this idea involves an anachronism because the Huns came to India during the fifth and sixth centuries CE (see n. 455), whereas cymbals were already represented in the first century CE.

Marcel-Dubois on the other hand, believes that the cymbals arrived from the West into India. Even though she raises the issue whether the cymbals were brought to India by the Greek satraps, or perhaps the other way round from India to Rome, she leaves little doubt about the plausibility of the first option because of the overwhelming evidence supporting it.[458] This course of development is at least supported by the fact that the first depictions of cymbals indeed occur from the first century CE, that is not long after the arrival of the Greeks and especially in the Gandhāra period.[459] Marcel-Dubois also cites passages (pp. 6 and 17) from Arrian's *Indika* (96-180 CE) that offer interesting evidence about the efforts of the Greek armies to introduce cymbals as well as many other things among the Indian people.[460]

2085047a *tataḥ saralatālāś ca tilakā naktamālakāḥ*
2085047c *prahṛṣṭās tatra saṃpetuḥ kubjābhūtātha vāmanāḥ*

Here a festive mood in the forest is described where some trees have been transformed into drummers, some into 'bearers of *śamyā*' and others into dancers, whereas others, including the Palmyra trees (*tāla*) have been changed into joyous dwarfs, etc. Some scholars tend to interpret the word *śamyāgrāhā* as meaning 'cymbalists', but following V. Raghavan (1978, 542) one may better translate here as 'timekeepers', because in folkdance a concussion stick known as *śamyā* is usually held in each hand, and the time is kept by striking the sticks together or with those of neighbouring dancers.

[454] Cf. Mahābhārata 4, 70, 30-4 (cited by Jaidev Singh 1994, 194):
bheryaś ca tūryāṇi vārijāś ca I *veṣaiḥ parārdhyaiḥ pramadājanāś ca* II
bandipravadāḥ paṇavādikaś ca I *tathaiva vādyāni ca vaṃśaśabdāḥ* II
kāṃsyaṃ satālaṃ madhuraṃ ca gītam I *ādāya nāryo nagarān nirīyuḥ* II (v.l. *sakāṃsyatālaṃ*)

These verses are also omitted from the critical editions (cf. Poona edn. Vol 5, p. 269, n. on v. 28.) for probably the same reasons as mentioned above with respect to the Rāmāyaṇa (see above, n. 454). The Poona edn. also drops a line that refers to the sound of a brass or copper gong: *kāmsya-ghaṇṭā-svanair api* (14 App. 4, 3107 post).

[455] See Sachs 1940, 222. The Huns (*viz.* the Ephthalites or White Huns either of Turkish or Tibetan origin) from the central Asian steppes swooped down on both Persia and India during the fifth and sixth centuries. Cf. V.A. Smith 1958, 37 f.

[456] "Frequently, two small empty bells are clashing together like cymbals." (*ibid.*)

[457] Eastern, or Chinese, Turkestan comprised the western provinces of China, now the Xinjiang Uygur Autonomous Region (*The Columbia Encyclopedia*, Sixth Edition. 2001, Electronic version).

[458] See further Marcel-Dubois p. 189 f.

[459] Cf. Kaufmann, p. 158, Text illustrations 2.

[460] Even though many of the things ascribed to Dionysos (285-247 BCE) appear to be exaggerated and certainly questionable for various reasons, his connection with the introduction of cymbals into India is worth closer consideration. Arrian reports that "... the Indians worship the other gods, and Dionysos himself in particular, with cymbals and drums, because he so taught them; ... even up to the

She further shows that from India the cymbals found their way to central Java, through ancient Hotan (Khotan), Tibet, China and Cambodia (Khmer).[461] Kaufmann, however, seems to suggest the reverse order when observing that one finds relatively little evidence of cymbals and gongs in ancient India, even though these instruments appear to have their origin in South-East Asia where they are very widespread.[462]

Whatever may have been the case, one thing is clear, namely that once the cymbals reached India their practical and characteristic utility in musical ensembles was fully exploited, even to the extent of leading *tāla* cheironomy to the brim of extinction.[463]

What transpires from this survey is that (1) the presence of drums and drumming permeates the entire history of Indian culture; (2) cheironomists appear centuries earlier in the picture than the cymbalist, that is perhaps as early as ca. 400 BCE with Pāṇini's reference to *pāṇigha* ('one who strikes his hands')[464] and with the emergence of art music as attested to by numerous references in the epics to *tālāpacara*, *tālāvacara*(*ṇa*), *pāṇidhvanika*, *pāṇisvanin*, *talapāta*, etc.; (3) idiophones in the form of cymbals appear to have been introduced to Indian musical instruments somewhere around the first century CE, when the quality of brass improved through Greek influence and probably after the composition of the NŚ, because they are not treated there as proportionately as would be expected of an instrument that represents a group; (4) this state of affairs explains why the NŚ is silent about the application of idiophones during the arrangement of musical instruments on the stage (*pratyāhāra*); and (5) against this light the mentioning of idiophones (*ghana*) and cymbals (*tāla*) in the NŚ does not appear very convincing and may on that account be considered as 'suspect'.

5.3 *Tāla* and *ghana* (idiophones)

In the NŚ the word *ghana* occurs only four times in a rhythmic context[465] and indicates the class of idiophones, that is a group of percussion or rhythm instruments made of solid and 'naturally sonorous' materials, such as brass, etc.[466] From Abhinavagupta's commentary on

---

time of Alexander the Indians were marshalled for battle to the sound of cymbals and drums." McCrindle 1926, 205. See also Marcel-Dubois p. 6). On the association of cymbals with the orgiastic rites of the goddess Cybele and the service of Dionysos, the god of wine, see Sachs 1940, 149.

During their incursions the Greek applied various tricks to outwit the Indians. In this regard Megasthenês (ca. 300 BCE) reports that among other tricks, Dionysos "gave the signal for battle by cymbals and drums instead of the trumpet, and by regaling the enemy with wine diverted their thoughts from war to dancing" (McCrindle, pp. 162 and 36).

Note the following curious account in Arrian's *Indika*: "I have myself actually seen an elephant playing on cymbals, while other elephants were dancing to his strains: a cymbal had been attached to each foreleg of the performer, and a third to what is called his trunk, and while he beat (sic.) in turn the cymbal on his trunk he beat (sic.) in proper time those on his two legs. The dancing elephants all the while kept dancing in a circle, and as they raised and curved their forelegs in turn they too moved in proper time, following as the musician led." (McCriddle, p. 221).

[461] See Marcel-Dubois pp. 201 f. and 210-3.

[462] Kaufmann, pp. 104 and 132.

[463] See further, § 4.2, above.

[464] Cf. Pāṇinīya Aṣṭādhyāya 3, 2, 55 *pāṇigha-tāḍaghau śilpini*.

[465] I.e. NŚ [KM edn.] 6, 30; 28, 2, 31, 1 and 34, 31. Note that the first two instances are repetitions, the third is a direct reference to the second, whereas the last one is independent, though implying the classification stated in the first two instances.

[466] See further Sachs, 1940, 455 ff.

NŚ 31, *ghana* emerges as the instrument *par excellence* for keeping rhythm and measuring time. Given its simple construction and corresponding mode of playing, it presumably did not involve much theory and could thus easily be adapted into the theory and practice of *tāla* cheironomy. Above, in § 5.2, I have explained the probable reason why the *ghana* instruments have not been described in the NŚ, though their mention in the beginning of NŚ 31 suggest their involvement in rhythmic organisation (*tāla*).

There are also only few instances in the NŚ where the word *tāla* is used in the sense of a musical instrument, *i.e.* as a cymbal (*tāla*).[467] As far as I know, no other species of the group has been mentioned in the rest of the work. *Tāla* represents not only a particular specimen, but also the entire species of cymbals. And there are indications that at a certain point in time it also became an species of the entire class or group of idiophones (*ghana*). In Indian musicology, *ghana* refers to one of the four main divisions of musical instruments as classified for the first time by the NŚ (28, 1-2), viz. *tata* (stringed instruments or chordophones), *suṣira* (wind instruments or aerophones), *ghana* (cymbals or idiophones) and *avanaddha* (drums or membranophones).[468] Note that the first two names represent the family of melodic instruments (*svara-vādya*), whereas the other two represent the family of percussion instruments (*tāla-vādya*).

5.3.1 Construction & Performance of *ghana*

The term *ghana* is commonly known as an adjective that qualifies the density or hardness of a given entity, but in the context of musical instruments, it stands for a noun generally translated as 'autophone', 'idiophone', 'solid instrument' or 'cymbal',[469] though it sometimes appears as the name of, for example, a Jāti,[470] and so on. For the full semantic range of the word *ghana* one should see those indigenous dictionaries (n. 469 below) which recognise it as an instrument, or emphasise 'hardness' or 'solidness' as its distinguishing material characteristic.

In a general sense idiophones could be made of any piece of hard, but nevertheless vibrating material such as, for example, wood, metal, bone, shell, etc. (cf. n. 419), and played by striking them with a similar item or another hard object.

Furthermore, idiophones don't need the aid of any external gadgets like strings, membranes, etc., or additional tension as do strings or drum skins.[471] Thus unlike species of the other three classes of instruments, idiophones do not require any special kind of tuning or any advanced techniques of tooling and are played as they are made.[472]

---

[467] See n. 465, above.

[468] Cf. KSS 28, 1 *tataṃ caivānaddhaṃ ca ghanaṃ suṣiram eva ca | caturvidhaṃ tu vijñeyam ātodyaṃ lakṣaṇānvitam.* According to Chaitanya Deva (1987, 3), "This ancient division has not been bettered and the best that Western musicology could achieve--the Hornbostel-Sachs system--is exactly the same as this age-old Indian scheme."

[469] Cf. Amarakoṣa 1, 7, 4d *kāṃsyatālādikaṃ ghanam;* 3, 1, 66a *ghanaṃ nirantaraṃ* (compact, dense =) *sāndram.* Also compare two other sources cited by the commentary (Rāmāśrayī): (1) Hemacandra's Abhidhānacintāmaṇi *ghanaḥ sāndre, dṛḍhe, dārḍhye, vistāre, mudgare, 'mbude | saṅghe, muste, ghanaṃ madhye, nṛtyavādyaprabhedayoḥ* (p. 271) and (2) Dharaṇīkoṣa *ghanaṃ sāndraṃ, ghanaṃ vādyaṃ, ghano musto, ghano 'mbudaḥ | ghanaḥ kāṭhinysaṃghāto, vistāro, lohamudgarau* (p. 413).

[470] In NŚ (GOS edn.) 29, 73 and 75, the *jāti* named *ghana* is one of the four styles of playing the harp-*vīṇā*.

[471] Cf. Sachs 1940, 455.

Due to the relatively late occurrence of cymbals, the oldest sources are logically silent about them as well as their group, *ghana*. Thus, relatively little is known about their early construction (organology) and actual performance, except what is known from depictions on early reliefs. In this regard, we may turn to the A.Bhā. and SR for the first description of the *ghana-s* and their performance in pre-medieval times. Abhinavagupta is the first to give a relatively good account of their application, whereas Śārṅgadeva stands out with his full organological description of all current species as well as the sounds produced on them. Abhinavagupta's main ideas on the matter are reflected in the following passage:

> *Ghana* [in NŚ 31, 1a, must be explained etymologically] as 'is beaten', meaning that it is hard [enough to endure beating]. [Idiophones, such as,] brass cymbals (*kāṃsyatālikā*), etc., are therefore (*tata eva*) said[473] to be [particularly] useful [instruments to apply] merely for measuring [the performance] (*mānamātreṇa*), for [due to their primitive organology] it is not possible to apply [techniques, such as,] the ascending (*unnamana*) and descending (*namana*) [of scales],[474] (or) the [stretching and] relaxing (*śaithilya*), etc., [of drum braces][475] by excluding (*anurudhya*) [the production of] a variety of [sounds such as] (drum) syllables (*akṣara*) and of (melodic) tones (*svara*).
>
> It is (thus) proper to take '*ghana* in the sense of *mūrti*'[476] and '*mūrti* as (meaning) being hard'.[477]/[478]

As indicated above, Śārṅgadeva is the first author to give a full account of the idiophones (SR 6, 1171-1208ab). This fact once again proves the relatively late occurrence of these instruments and their acceptance on the same rank as that of other instruments. Śārṅgadeva first confirms the idea that the class of idiophones was dominated by the species made of brass (SR 6, 1171a *kāṃsyaje ghanavādye*) and that among them the cymbals called *tāla*, were the most popular (as seems from their relatively detailed description). Conceding that there are numerous possible forms of idiophones (SR 6, 1207cd *santy anyāny api*), he wisely confines himself to describing only eight species, *viz.*, "a cymbal (*tāla*), a cymbal made of brass (*kāṃsyatāla*), a bell or gong (*ghaṇṭā*), (a girdle of) small (ankle) bells (*kṣudraghaṇṭikā*), a bell of triumph (*jayaghaṇṭā*), rattle sticks or castanets made of wood or bamboo (*kamrā*), a (serpent shaped) metal rasp (*śukti*), a (rectangular) wooden rasp (*paṭṭa*), etc., are [some] varieties of idiophones (*ghanavādya*)."[479] His detailed description of the popular *tāla* obviously serves as a prototype for the other species, and merits being quoted in its entirety:[480]

---

[472] These limitations obviously render the *ghana-s* as the earliest and most primitive form of musical instruments. Cf. Sachs 1962, 92 and Chaitanya Deva 1987, 40.

[473] Cf. Amarakoṣa 1, 7, 4d. See n. 469.

[474] More appropriate terms for ascending and descending scales, are *āroha* and *avaroha* respectively. The words *namana* (bending down) and *unnamana* (raising up) obviously indicate the movement of the hands running up and down during these exercises. They may also indicate the two reverse movements of plucking the strings of the harp-*vīṇā*, i.e. the 'drawing' and 'pulling' of the wrist.

[475] In the chapter on drumming the word *śaithilyāt* is sometimes mentioned along with *āyatatvāt*, which definitely refer to the 'loosening' and 'tightening' respectively of the thongs or straps of a drum in order to adjust the 'pitch' during tuning. Cf. NŚ (GOS) 34, 26; 124.

[476] Cf. Pāṇinīyāṣṭādhāyī 3, 3, 77 *mūrtau ghanaḥ*.

[477] Cf. Amarakoṣa 3, 3, 66d *mūrtiḥ kāṭhinya-kāya-yoḥ*.

[478] A.Bhā. Vol. IV, p. 150. 14-6 *tatra hanyata iti* [1]*ghanaḥ kaṭhinataikarūpaḥ* | [2]*tata eva* [3]*namanonnamanaśaithilyādiyogābhāvād akṣaravaicitryaṃ svaravaicitryaṃ* [4]*cānurudhya, mānamātreṇopayogī* [5]*kāṃsyatālikādir ucyate* | *mūrto* [sic] *ghana iti mūrti*[sic]*kāṭhinyam iti yuktam.*

[1]*ghanaḥ kaṭhinataikarūpaḥ* GOS *ghanakaṭhinakaikarūpa°* GOML ms. [2]*eva* GOS/GOML ms. *iva* Sharma (1992, 342) and Lath (1978, 104) [3]*namanonama(nma)nan(na)mai(śai)thilyādiyogābhā(vā)d* GOS *...onnamanaśaithilyādiyogābhāvād* GOML ms. [4]*cānurudhyamānamātreṇopayogī* GOS *śānarurudhyamānāhānamātreṇa upayoni* GOML ms. [5]*kāṃsyatālikādir* GOS *kāṃsyanāḍikādibhir* GOML ms.

> <1171> As for idiophones made of brass, the brass has been perfectly purified in fire. A *tāla* (cymbal) is made of brass (and) has a round surface [with a diameter] of two and a quarter fingers (*aṅgula*). <1172> The central depression (*nimna*) has a diameter of one finger, the aperture (*randhra*) in the centre a diameter of a berry smaller by a quarter, whereas the roundish knob [on the top] has the measurement of one barley-corn (*yava*).[481] <1173> (The cymbal) is one and a half fingers high. One should shape its even, smooth and splendid form in such a way that it produces a sound that is attractive to the ear.
>
> <1174> One should string a (piece of) rope that is made from the hem-threads of a fine garment (*añcala*) or of a veil over the eyes, through the aperture [of the cymbal] and make a strong knot so that the ends [of the rope] don't get loose.
>
> <1175> Having thus manufactured a pair of *tāla-s*, [listen now how to play them]. Holding one *tāla* in the (left) hand (*talamadhyastham*) by (the string) made from hem-threads, wrapped round the left index finger and held there with the thumb, <1176> holding it transverse, facing (up) and the remaining (three) fingers spread upwards;
>
> <1177> whereas the (other) *tāla* is held with the right hand, [by the string clutched] between the tips of the index finger and thumb, held transverse, facing [down] - [like ?] the moving edge of a roof (*vali*) - hanging down from the other end [= palm of the hand, *anta* > 'middle']; <1178> with its fore part one should hit the middle of the other (*tāla*).
>
> (The cymbal) with little sound is (called) Śakti and (the other) with abundant sound Śiva. <1179> In the affectionate Śiva the sound is dense, whereas in Śakti it is the opposite. Śakti is held with the left hand

---

[479] SR 6, 15-16ab *tālo 'tha kāṃsyatālaḥ syād, ghaṇṭā ca kṣudraghaṇṭikā* I *jayaghaṇṭā tataḥ kamrā śukti-paṭṭādayas tathā* II *prabhedā ghanavādyasya proktāḥ soḍhalasūnunā* I See further G. H. Tarlekar & Nalini Tarlekar, *Musical Instruments in Indian Sculpture*. Pune 1972, 81-3.

[480] *kāṃsyaje ghanavādye syāt kāṃsyam agnau suśodhitam* I
kāṃsyajo vartulas tālaḥ sapādadvyaṅgulānanaḥ II 1171 II
madhyo 'syāṅgulavistāro nimno, randhraṃ ca madhyagam I
pādonaguñjāmātraṃ syāt, piṇḍas tu yavamātrakaḥ II 1172 II
sārdhāṅgulaḥ syād utsedhaḥ, samāślakṣṇaśubhākṛtiḥ I
kāryā tathā yathā nādo bhavec chrutimanoharaḥ II 1173 II
netravastrāñcalāgrāṇi rajjūkṛtya niveśayet I
randhre, 'grāṇām anirgatyai granthiṃ ca racayed dṛḍham II 1174 II
īdṛk tālayugaṃ kṛtvā, tālam ekam, athāñcalaiḥ I
āveṣṭya tarjanīṃ vāmām, aṅguṣṭhena ca veṣṭanam II 1175 II
ākramya talamadhyasthaṃ, dhṛtvā tiryaṅmukhīkṛtam I
śeṣāṅgulīḥ prasāryordhvād, dakṣiṇena tu pāṇinā II 1176 II
tālam anyatarasyāntalambamānācalāvalim I
tarjanyaṅguṣṭhayor agrabhāgatas tiryagānanam II 1177 II
dhṛtvā, tasyāgrabhāgena madhyam anyasya tāḍayet I
alpanādo bhavec chaktir, bhūrinādaḥ śivo bhavet II 1178 II
śive snigdhe ghano nādaḥ, śaktau syāt tad viparyayaḥ I
vāmena dhārayec chaktiṃ, śivaṃ dakṣiṇapāṇinā II 1179 II
aśvamedhaphalaṃ caiva prāpnuyād doṣam anyathā I
devatā tumbarur yugme, śaktiḥ śaktau, śive śivaḥ II 1180 II
drutādisiddhyai tannādadhṛtir ūrdhvāṅgulīkṛtā I
kalpanety ucyate, kāryam asya syāt tāladhāraṇam II 1181 II
niḥśaṅkaśārṅgadevena pāṭāḥ sarve 'tra kīrtitāḥ I

[481] Yava is a measure of length = 1/6 or 1/8 of an Aṅgula. See MW. Dict. s.v. *yava* p. 847.

and Śiva with the right. <1180> [Thus knowing] one obtains the fruits of an Aśvamedha (sacrifice), otherwise the blemishes. The deity Tumburu (abides) in both (cymbals), Śakti in Śakti and Śiva in Śiva.

<1181> †For establishing fast and other (tempos) their sound is kept constant with the fingers facing up; (this) is called 'practice' (*kalpanā*).† The function of these (cymbals) is to keep rhythm (*tāladhāraṇa*). <1182ab> The fearless Śārṅgadeva has taught all the mnemonic syllables (*pāṭa*) [of cymbals][482] here [in the present chapter]. (SR 6, 1171-82ab)[483]

5.3.2 *Ghana* and NŚ 31

The association of NŚ 31 with idiophones is suspect and the following examination tries to prove this point by advancing arguments and proofs showing that, in fact, *tāla* cheironomy and its functions are the main concern of this chapter. This means that the suggestion in the first verse as well as the concluding line of the preceding chapter, that *ghana* or one of its species is the object of the chapter, is suspect. On the basis of internal evidence I argue below that the substitution of *tāla* by *ghana* in these and other places may be cases of interpolation, most probably motivated by drastic development in the fields of rhythmic theory and practice. See in this regard, also §§ 4.2 and 5.2.

Gāndharva, the major musical tradition from the classical period,[484] is conceived in the NŚ as based on melody (*svara*), rhythm (*tāla*) and composition (*pada*).[485] It seems that these conceptual components are treated in the same order: first the melodic component (*svara*) in chs. 28, 29 and 30, then the formal aspects of musical time (*tāla*) in ch. 31, and then the verbal aspect (*pada*) in the Dhruvā chapter (NŚ 32). Finally, a chapter on drumming (NŚ 33) is appended to the music section, obviously to complement the *tāla* section of Gāndharva music:

---

[482] Here *pāṭa* (apparently derived from *pāṭha* 'recitation') refers to mnemonic syllables or verbal imitations of sound produced by clashing or tinkling cymbals, such as, for example, *jha, na, ka, ṭa*, etc., (cf. SR 6, 1184a ff. *passim*), in the same way as in drumming to the mnemonic syllables produced on drums, which derive from sixteen basic syllables *ka, kha, ga, gha*; *ṭa, ṭha, ḍa, ḍha, ṇa*; *ta, tha, da, dha, na*; *ra* and *ha* from the Sanskrit alphabet. When the latter are combined with one another and with vowels, they make numerous other *pāṭa-s*, such as, for example, *jheṃ, praṃ, tho, diga, tho, thiṃ, diki, dhaki, kiṭa, jheṃ*, etc. Cf. SR 6, 822 ff. and Kalānidhi (*passim*). See also Lath 1978, 102, n. 2.

[483] See further Alastair Dick, "Tāl", in *The New Grove Dictionary of Musical Instruments* III, 1984 p. 503.

[484] Gāndharva seems to be a general term indicating a solemn and formalized form of music in ancient India. See further Lath (1978, 61 ff.), who, following AG, distinguishes two major musical traditions of the ancient theater: Gāndharva and Gāna. The first stood for ritual, strict or composed music, while the latter for free and improvised music. When used in its broad sense, Gāndharva means what we might call 'formal' music, and in its restricted sense it signifies the ceremonial music of the preliminary theatrical rituals (See further Rowell 1992, 11).

However, some scholars remain suspicious of tracing the distinction between Gāndharva and Gāna further back than AG's analysis in the Abhinavabhāratī (cf. Rowell 1992, 345, n. 6).

[485] KM 28, 8ab *gāndharvam iti taj jñeyaṃ svara-tāla-padāśrayam.*

Table 19 The concurrence of the conceptual components of Gāndharva with the chapters on instruments.

NŚ Chapters	Topics		Conceptual component of Gāndharva music
ch. 28	*jāti*	(melodic theory)	*svara*
ch. 29	*tata*	(harps)	*svara*
ch. 30	*suṣira*	(flutes)	*svara*
ch. 31	*ghana*	(cymbals & rhythmic theory)	*tāla*
ch. 32	*dhruvā*	(verbal compositions)	*pada*
ch. 33	*avanaddha*	(drums)	*tāla*

The treatment of musical instruments is skilfully integrated into that of the three conceptual components of Gāndharva (*i.e. svara, tāla* and *pada*). Notably, the treatment of *svara* comprises discussions on vocal and melodic theory (ch. 28) followed by that on melodic instruments (*svara-vādya*), *viz.* the harps (ch. 29) and flutes (ch. 30). Likewise, the treatment of *tāla* is also expected to comprise discussions on rhythmic theory and rhythmic instruments (*tāla-vādya*), such as cymbals and drums. Since drums and the ancient art of drumming are treated in ch. 33, and the *pada* aspect of Gāndharva in ch. 32,[486] it follows that ch. 31 should be dedicated to *ghana*, the remaining class of instruments not yet treated separately. Since the author of the NŚ had indicated that he would expound the 'formal aspects' of the musical instruments,[487] and accordingly had enumerated four classes of musical instruments, we expect him to treat them all and preferably in separate chapters. However, as observed above and following paragraphs, ch. 31 is not a 'Ghanādhyāya' as it does not describe the *ghana-s* or their practice, though it mentions *ghana* and one of its species *tāla* just once in the opening verse. In fact, the cheironomy that forms the basis of the *tāla* system or the rhythmic organisation of Gāndharva music, has been treated exhaustively in ch. 31. For this reason it has appropriately been designated as Tālādhyāya - a title that consistently appears in the colophon of all versions of the text. Even the argument that the title ambiguously suggests treating both the popular *tāla* cymbals as well as their eponymous system of rhythmic organisation, proves to be untenable.[488]

The opening verse of NŚ 31 where *tāla* is reported to have been mentioned (earlier) as an idiophone (NŚ [KSS] 31, 1a *tālo ghana iti proktaḥ*), is one of the few instances in the entire chapter where the word *tāla* has been used in the sense of a musical instrument (see above, n. 465). The juxtaposition of *tāla* and *ghana* forces one to interpret the former as being identified with the latter, *viz.* in the sense of an idiophone. The predicate *proktaḥ* here indicates that *tāla* has previously 'been mentioned' as [a species of] *ghana*'. This verse indeed reflects an earlier statement from the beginning of the music section of the NŚ[489] where the musical instruments are categorised into four main classes, three of which are illustrated by a typical species of its sort.[490] Notably, *tāla* is again juxtaposed there with *ghana* (though in reversed order) and the idea conveyed is clear, *viz.* that (the class of) *ghana* should be known as consisting of (instruments such as) *tāla*, etc., in other words, *tāla* is an epitome of a species that belongs to the *ghana* class of idiophones (NŚ 28, 2c *ghanaḥ*[491] *tālas tu vijñeyaḥ*). As shall be argued below, these 'identifications' in the NŚ might have caused some confusion later on in the correct application of terms denoting class and species.

---

[486] Certain aspects of the Dhruvā-s (i.e. 'fixed' songs or compositional forms) are also dealt in the chapters on *tāla* and on drumming. This seems to indicate that rhythm dominated the performance of these ancient songs, as has repeatedly been stated by AG. Even though *pada* cannot always be said to be part of *tāla*, conversely it is true that *tāla* is an essential (if not the most important) aspect of *pada*. This view is reflected in almost all later musicological works.

[487] Cf. prose passage at the beginning of ch. 28 (KM edn.) *ātodya-vidhim idānīṃ vakṣyāmaḥ*. See also the last verse of the preceding chapter where the same is announced: KM 27, 93cd *ataḥ ūrdhvaṃ pravakṣyāmi ātodyānāṃ vikalpanam*. Note that the words *vikalpana* and *vidhi* are used as synomyms. The term *vidhi* was also used to designate the *tāla* related topics, which were enumerated in ch. 28 (see above).

[488] The phenomenon that species, i.e. *tāla* has come to represent its class i.e. *ghana*, is not unique to this class of instruments. For example, the *avanaddha* chapter on drumming (KM/GOS 34), is mentioned in the colophon as the 'Puṣkara chapter', while Puṣkara is just a species of *avanaddha*. Abhinavagupta also uses this same designation (see GOS Vol. IV, p 287. 17; 463. 24-26).

It seems that due to its popularity, one particular specimen, viz. cymbals made of bell metal (*kāṃsya-tāla*) came to dominate the entire species. Śārṅgadeva's account of *ghana* indicates that, at least up to early medieval times, the species made of brass even dominated the entire class of idiophones (SR 6, 1171a *kāṃsyaje ghanavādye*) and that among them the brass cymbals called *tāla*, were the most popular ones, as seems from their relatively detailed description (see above, n. 480). Accordingly, a score of cymbals adopted the word *tāla* into their names, such as, for example, *tāla*, *tālikā*, *karatāla*, *kāṃsyatālikā*, *jhañjhātāla*, etc. Their alleged popularity may not only be explained by the specific tonal properties of brass metal, but by their specific utility during musical performances, namely due to their clear pitch and audibility.[492] And as shown next, it ultimately came to designate not only NŚ 31 as the *tāla* chapter, instead of *ghana* chapter, but even the class of idiophones as *tālavādya*, instead of *ghanavādya*.

A closer look at the ambiguous and inconclusive titles of NŚ 31 and their adjacent colophons, suggests that this chapter might have been planned to deal with *ghana* and its varieties, but that due to obscure reasons the word *ghana* in the title and colophons was substituted by *tāla*, and the contents evidently by a treatment of rhythmic organisation. To understand this problem we may first consider some of the factors leading to the composition of NŚ 31.

From what is stated in the last verse of NŚ 30, the succeeding chapter is supposed to deal with the variety of *ghana* instruments (cf. NŚ [KSS/GOS/BI] 30, 12cd *ataḥ ūrdhvaṃ pravakṣyāmi ghanātodyavikalpanam*). On this 'evidence' one could refer to ch. 31 as Ghanādhyāya. However, a study of that chapter shows that the term *ghana* is mentioned only twice in the entire chapter,[493] whereas the term *tāla* has been used in that sense only once in the opening verse.[494]

---

[489] This section of the NŚ is traditionally called the Geyādhikāra, i.e. 'a treatise on Gāndharva music' as interpreted by Lath 1978, 6.

[490] Cf. KSS 28, 2 *tataṃ tantrīgataṃ jñeyam avanaddhaṃ tu pauṣkaram | ghanaṃ tālas tu vijñeyaḥ, suṣiro vaṃśa ucyate*. "The [class of] chordophones should be known as consisting of stringed (instruments), and [that of] the membranophones of [drums, such as,] *puṣkara*, (etc.,) [that of] the idiophones should be known as [consisting of 'solid' instruments, such as,] *tāla*, (etc.,) and [that of] the aerophones is said [to consist of flutes, such as,] *vaṃśa*, (etc.)."

[491] Since *ghana* is the subject of the phrase, its case and gender should agree with the adjective (*tālas*) and verb (*vijñeyaḥ*). I therefore follow ms. 'Bha' of the GOS edn. (Vol. IV, p. 2), which is perhaps the only witness reading *ghanaḥ*, whereas all printed edns. read *ghanaṃ*.

[492] Abhinavagupta occasionally mentions these characteristics. Cf. A.Bhā. vol. IV, pp. 150. 16; 151. 16f.; 152. 13-6, etc.

[493] See above, n. 465.

[494] One plausible reason that could be advanced to explain why Bharata did not describe the *ghana-s*, is perhaps the fact that due to the primitive nature and construction of *ghana-s*, their organology, varieties and performance practice, etc., were taken for granted, and consequently considered

Notably, instead of *ghanātodya°* (NŚ 30, 12cd) some exemplars of a younger version of the text read *ghanatāla°* ('Ra' GOS ms.) and *tālavādya°* (KM edn.). All versions seems to agree in announcing *ghana* or one of its species (*tāla*) as the object of treatment in NŚ 31. This further implies that at the time the younger versions emerged, the terms *ghana* and *tāla* had come to be confounded, or used interchangeably.

It is evident that the author of the music section intended to write theoretical-cum-practical chapters on the musical instruments. At the end of NŚ 27 he announces that in the next chapters he will expound the *vikalpana* of the musical instruments (cf. KM 27, 93cd *ataḥ ūrdhvaṃ pravakṣyāmi ātodyānāṃ vikalpanam*). And immediately at the beginning of the twenty-eighth chapter he reiterates this pledge, but this time using the word *vidhi* instead of *vikalpana* (cf. KM 28, 1 *ātodya-vidhim idānīṃ vakṣyāmaḥ*). Bharata often uses the action noun *vikalpana* to introduce new topics,[495] obviously to indicate the 'distinctions', 'different forms', 'variations', etc., of the items to be discussed, but its occasional substitution by the word *vidhi* seems to be more appropriate as it expresses more fully his intention to treat both the theoretical as well as the practical aspects. The word *vidhi* occurs a number of times in ch. 28 during the enumeration of musical topics, including those of *tāla*. In each case, it seems to denote their respective 'formal aspects',[496] and in the case of *tāla* it refers to its conventional, or prescribed items or topics covering both the theoretical/conceptual as well as the practical aspects. Its lexical meanings, such as 'rule', 'law', 'precept' etc., indeed allow us to interpret it as meaning *theory*, as well as *practice* in the sense of building (*karma*) and playing (*vādana*) the instruments. This interpretation is supported by internal evidence, because the author also splits up the semantic range of the term *vidhi* into two cognate fields: *lakṣaṇa* and *karma* (*vikalpana = vidhi = lakṣaṇa + karma*).[497]

In this light NŚ (KM) 27, 93 and 28, 1 should be understood as a promise to expound 'the various (theoretical and practical) aspects of the [4 classes of] musical instruments' (*ātodyānāṃ vikalpanam*; *ātodya-vidhim*). Similarly, when the concluding line of NŚ 30 is reinterpreted, the intended topic of NŚ 31 emerges more clearly, *viz.* 'the various (theoretical and practical) aspects of *ghana* instruments (*ghanātodyavikalpanam*).'[498]

---

unworthy for elaborate description. There instead the focus might have been laid totally on the overall theory of rhythmic organisation.

[495] Cf. KM. 10, 101d; 17, 137d; 18, 1b; 20, 1d; 28, 93d; 32, 313-4, etc.

[496] See Ghosh BI Transl. 28, 1; 10; 12; 20. A glance through the pages of the musical chapters is enough to conclude that the theoretical aspects dominate, but on the other hand, there are also many passages, especially in the thirty-third chapter (BI edn.), which deal with the practical aspects of manufacturing and playing drums, for instance.

[497] With regard to all three forms [= aspects] of Gāndharva: melody (*svara*), rhythm (*tāla*) and composition (*pada*), Bharata states that he will expound their theory (*lakṣaṇaṃ*) and practice (*karma*) (cf. KM 28, 11 *gāndharvaṃ trividhaṃ vidyāt svara-tāla-padātmakam | trividhasyāpi vakṣyāmi lakṣaṇaṃ karma caiva hi*). After announcing that next [in the 33rd ch.] the *vidhi* of drums will be expounded (BI 32, 524cd *ataḥ ūrdhvaṃ pravakṣyāmi hy avanaddha-vidhiṃ punaḥ*), the author reiterates at the beginning of that chapter that while classifying the drums he will explain the theory (*lakṣaṇaṃ*), manufacturing (*karma*), and playing (*vādana*) of instruments like the Mṛdaṅga, Paṇava and the Dardura (BI 33, 1cd-2 *avanaddhavibhāgena lakṣaṇaṃ karma caiva hi || ātodyānāṃ pravakṣyāmi vidhiṃ vādanam eva ca | mṛdaṅga-paṇavānāṃ ca dardurasya tathaiva ca*).

Wherever *lakṣaṇa* and *karma* appear together they seem to be used in the same sense as the pair *śāstra* (theory) and *prayoga* (practice) in the NŚ. In GOS 31, 330 where the terms *lakṣaṇa* and *prayoga* are used, *prayoga* has the same meaning as *karma*. Similarly, *lakṣaṇa* is sometimes substituted by *vidhāna* (cf. KM/GOS 28, 12d).

[498] Even though a clear link is missing, Abhinavagupta forcibly wants to show the connection between NŚ (GOS) 30, 12cd and 31, 1, i.e., between the two chapters, by interpreting the particle *hi* in

For a general idea about the main theme of NŚ 31 we may also turn to the colophons of the NŚ chapters that as a rule mention the title and number of the respective chapters. As to the theme of NŚ 31 the colophons of the main versions of the NŚ show great agreement with one another. The KM qualifies it as *tālavidhāna* 'an exposition of *tāla*', the GOS simply as *tālādhyāya* 'the chapter on *tāla*' and the KSS as *tālavyañjaka*[499] 'the manifestor of *tāla*'.[500]

The following conclusions may be drawn from these considerations: a) as unanimously indicated by these colophons, NŚ 31 was designed to treat *tāla* theory and practice; b) the contents of the chapter prove beyond any doubt that here the cheironomical system and its various functions are the object of treatment, and not *ghana* or its species, as claimed by the concluding lines of the preceding chapter; 3) the apparent imposition of the latter category of instruments as the main theme of NŚ 31 (cf. last verse of ch. 30), is obviously the result of interpolation, motivated to account for the emergence of *ghana* or its species as the leading percussion instruments, also called *tāla*, which by then had come to dominate the rhythmic section;[501] and 4) in post-Nāṭyaśāstra periods the idea of presenting *ghana* as the object of ch. 31, might have arisen since it had by then come to be considered the most appropriate percussion instrument for indicating time and tempo during musical performances.

5.4 *Tāla* and *avanaddha* (drums)

Avanaddha (drums) - the other category of percussion instruments (*tālavādya*) - is also involved in the observance of rhythmic organisation. I have argued above (§§ 4.2. and 5.2) that it represents the earliest percussion instrument on Indian soil, present since the dawn of Indian civilization and still growing strong. This means that it precedes *tāla* cheironomy as well as the idiophones. Even though it cannot be denied that it was also used to accompany and organise early (*i.e.* pre-Classical) forms of musical performances, this role was ultimately assumed by the formal system of *tāla* cheironomy that dates from ca. 400 BCE. Just like *ghana*, *avanaddha* too facilitates the formal method of rhythmic organisation. However, unlike the former, the latter also embellishes the performance aesthetically with its appealing sounds, improvisations, and interaction with the other members of the ensemble. It has already been shown that *ghana* does not receive the same proportion of attention from the author(s) of the NŚ, as would be expected from Abhinavagupta's assertion that it represents the most effective class of percussion instruments. Notably, *avanaddha*, the rhythmically less effective class, is fully described and even associated with a mythical origin. It should be noted that unlike later sources, the NŚ does not associate *tāla*, its origin or development, with

---

31, 1 in such a way that a causal relation is 'established' between the two verses: "[The author] correctly said that 'I will explain its formal aspects [in NŚ 31]' because (*hi* = *yasmād*) the *ghana* instrument [or, the playing of a *ghana*] is [particularly] useful in this way [viz, as a time marking instrument]." A.Bhā. Vol IV, p. 152. 23-4 *hi yasmādarthaḥ | yasmād evam upayogi ghanātodyaṃ tasmāt tadvikalpanaṃ vakṣyāmīti yuktam uktam.*

[499] KSS edn., p. 363 *iti bhāratīye nāṭyaśāstre tālavyañjako nāma ekatriṃśo 'dhyāyaḥ* |

[500] The persistent reference in musicological literature to chapters on *tāla*, but never to *ghana*, also points to the line of developments as indicated above. Dattilam does not even mention the word *ghana*, but only *tāla*. In SR 6, 5-6 *ghana* is mentioned only obliquely in chapter 6 on instruments, reflecting its ancient function of beating time, whereas the fifth chapter is called *tālādhyāya*.

Just like Abhinavagupta (e.g. GOS p. 287. 25), modern musicologists (e.g. Lath 1978, 104; Rowell 1992, 188, etc.,) generally refer to the thirty-first chapter of the NŚ as the 'Chapter on rhythm' (*tālādhyāya*).

[501] On the developments leading to these interpolations, see further §§ 4.2 and 5.2.

any sage or myth.

The chapter on drumming (*vādyādhyāya*, NŚ 33) discusses, *inter alia*, the formal aspects, such as the practice, organology and typology of a score of ancient drums, such as the Mṛdaṅga, Dundubhi, Puṣkara, Paṇava, Dardara, Paṭaha, Muraja, and so on. In accordance with the divine origin of Indian theatre, many of its constituent parts have also been attributed a similar origin. Accordingly, the origin of drums is also associated with the interesting myth of sage Svāti. In order to explain the origin and development[502] of drums and their syllables, Bharata recounts that sage Svāti once observed that the raindrops falling on lotus leaves, created a variety of clear sounds. Svāti carefully studied this natural phenomenon and found that the sounds made on the large, medium and small leaves were deep, sweet and pleasant respectively. He then devised numerous drums accordingly, such as Mṛdaṅga, and so on.[503] The analogy suggested in this legend between the leaves and drum membranes of various sizes is apparent, as both produce an entire spectrum of different sounds. The sounds are usually referred to as *pāṭa*, *i.e.* verbal imitations or mnemonic syllables.[504]

5.5 Drumming and polyrhythm

Bharata touched upon certain elements of polyrhythmicality when discussing the art of drumming. From the description of some of the drumming techniques, it seems that a kind of polyrhythm was obtained when various types of drums started playing at different moments and in differing tempos (KSS 33, 184-205), and that tempo (*laya*, see below, n. 505) was the fundamental concept upon which other improvisational aspects such as tempic control (*yati*) and phasing (*pāṇi*) were based. *Yati* relates to the temporal flow, which could be either even, accelerating, or decelerating, whereas *pāṇi* refers to the principle of temporal phasing, which could be either even (= simultaneous), prior or later to the music or song (and probably also *vice versa*). *Laya*, *yati* and *pāṇi* constitute the basic ingredients for generating rhythmic variations on drums in particular. On the interrelation of these notions, see below, § 9.4.

In the chapter on drumming *laya* (tempo) is only said to be of three kinds: slow, moderate and fast,[505] without further elaboration, apparently because its exposition in the *tāla* chapter was considered adequate enough (KSS 31, 4-6; 530cd-32ab). *Yati* and *pāṇi*, on the other hand, also of three kinds, receive proper attention. What strikes one is the strong correlation existing between *laya*, *yati* and *pāṇi*, which has resulted in three different combinations, namely *rāddha*, *viddha* and *śayyāgata*.[506] *Rāddha* ('accomplished') refers to the performance where the *laya* is 'fast', the *yati* 'even', and the *pāṇi* 'late'; *Viddha* ('impeded') where the *laya* is slowed down or 'moderate', the *yati* 'current-like', and the *pāṇi* 'synchronous'; *Śayyāgata* ('relaxed', lit.

---

[502] Cf. BI 33, 4cd *pauṣkarāṇāṃ pravakṣyāmi nirvṛttiṃ sambhavaṃ tathā.*

[503] Among these drums the Dundubhi seems to have been considered a celestial drum, for Bharata says that "When (sage Svāti) had observed the Dundubhi of the Gods, he made the Muraja, Āliṅgya, Ūrdhvaka and Āṅkika (BI 33, 11)." This could mean that Svāti fashioned the earthly drums using the divine Dundubhi as a model. It is strange that the sage Svāti first discovered the principles of drumming after observing nature and then turned to Dundubhi, the celestial drum model, to make earthly drums.

[504] See above, n 482.

[505] KSS 33, 41 *trilayaṃ nāma - drutamadhyavilambitayogāt*. The KM version repeats this line further on (34, 99).

[506] GOS 34, 110 *triyati nāma | samā, srotagatā gopucchā ceti | layayatipāṇīnāṃ trividhaḥ saṃyogaḥ | sa ca triprakāro bhavati | tad yathā – rāddhaṃ, viddhaṃ, śayyāgataṃ ceti.* The KSS is lacunal while KM is corrupt. Ghosh's interpretation of the latter only complicates matters (Transl. II, p. 175, v. 93).

'lying on a couch') where the *laya* is 'slow', the *yati*, 'cow's tail-like' and the *pāṇi* 'early' (cf. GOS 34, 113-5):

Table 18 Polyrhythmic factors in drumming

	laya 'tempo'	*yati* 'tempic restraint'	*pāṇi* 'phasing'
Rāddha	druta 'fast'	samā 'even'	uparipāṇi 'late'
Viddha	madhya 'moderate'	srotagatā 'current-like'	samapāṇi 'synchronous'
Śayyāgata	vilambita 'slow'	gopucchā 'cow's tail-like'	avapāṇi 'early'

The author then again reinforces the fundamental position that tempos occupy in the application of *rāddha*, *viddha* and *śayyāgata*, by stating that "their measure (*pramāṇa*) arises from the slow tempo, etc., moreover, the [subsequent] decrease of time-value (*kalā*) should be made (up) in the remaining [aspects] (such as) the *pāṇi-s*, and so on." (GOS 34, 116)[507]

The *avanaddha* chapter, *i.e.* the chapter on drumming (*vādya*), makes it perfectly clear that "*laya*, *yati* and *pāṇi* are based on drums, which should be applied in due order and in keeping with the rules of dramatic performances."[508]

From the point of view of commencement the notion of *pāṇi* resembles that of *graha* (syncopation),[509] *i.e.* the point where drums lock in with the rest of the ensemble, that is mostly on the first accent, but often also before or after it. Just like *yati* and *pāṇi*, the notion of *graha* was also intimately (though not exclusively) connected to the *dhruvā* songs (cf. GOS 32, 8) and the art of drumming (KSS 33, 164d *grahān bhāṇḍasamāśrayān*). Note that even in the NŚ *pāṇi* (synchronisation) and *graha* (syncopation) occur as cognate notions and the difference is often difficult to point out.[510] Even though they represent very different concepts of rhythmic variation, later on the notion of *pāṇi* disappears completely whereas that of *graha* survives in post-Mataṅga sources.

Since drumming (read: *tāla*) formed an inseparable component of dance, these techniques inevitably played an important role during dance performances. The tempo of dance was accordingly synchronized with that of drumming and evidently formed the basis for applying further rhythmical tactics. When, for example, due to the song certain parts [of dance] are repeated again and again, drumming is prescribed to be performed "in keeping with *laya*, [?*yati*] and *pāṇi*."[511] This seems to indicate an exuberant and independent performance of the drum section, which at times had to comply with the demands of choreographic dynamics. Similarly, drums also meticulously imitated the notes produced by the singer (or instrument).

---

[507] This verse also occurs in the *tāla* chapter (as v. 539), but then in the context of *pāṇi*.

[508] KSS 33, 91 (KM 34, 103; GOS 34, 117):

yatayaḥ pāṇayaś caiva layā vādyasamāśrayāḥ
yathākramaṃ hi kartavyā nāṭyayuktim avekṣya ca

vādyasamāśrayāḥ KSS *vai vādyasaṃśrayāḥ* KSS/KM *yathākramaṃ* KSS *°kāmaṃ* KM/GOS; *kartavyaṃ* KSS *kartavyā* KM/GOS; *°yuktim* KSS/KM *°śaktim* GOS *°yogam* 'Bha' (GOS ms.); *avekṣya tu* KSS *apekṣya ca* KSS/KM

[509] On *graha* see further KSS 4, 316-21; 29, 111-7; 32, 22, 440-7.

[510] Cf. Ramanathan's vain attempt (1979, 129 f.) to figure out a difference between the two terms on the basis of Kallinātha's interpretation of SR 5, 50cd-52ab.

[511] KSS 4, 297cd-98 (cf. GOS 4, 300cd-301):

yadā gītavaśād aṅgaṃ bhūyo bhūyo nivartayet
tripāṇilayasaṃyuktaṃ tatra vādyaṃ prayojayet
yathā layas tathā vādyaṃ kartavyaṃ tv aṅgasaṃśrayam

gīta° KSS/KM *gīti°* GOS; *°tayet* KSS *°tate* KM/GOS
tv aṅgasaṃśrayam KSS *iha vādakaiḥ* KM/GOS

Bharata further rules that these notes should not only be accompanied by proper *yati-s* and *pāṇi-s*, but also be in accordance with [the arrangement of] short and long syllables.[512] The chapter on drumming therefore pays ample attention to pure formal aspects, such as *laya*, *yati*, *pāṇi*, and so on, but also to more practical aspects of drumming such as, for example, the application of mnemonical syllables (*akṣara*), tuning (*mārjana*), and so on (cf. GOS 34, 40).

---

[512] KSS 33, 35 (KM/GOS 34, 34):
yaṃ yaṃ gātā svaraṃ gacchet, tam ātodyaiḥ prayojayet |
yatipāṇisamāyuktaṃ gurulaghvakṣarānvitam ||

6. *Tāla* and musical metre

6.1 Introduction

At the basis of the Indian system of rhythmic organisation lies the measurement of time. I argue in § 4.1 that this was done by means of actions of the hand, arm and fingers (*tāla* cheironomy). Rhythmic theory presupposes a correlation between musical time and action. In fact, the former is meticulously synchronized by cheironomical action, specially designed for the purpose of structuring and measuring it. The gestures and beats are grouped into (periodic) units or measures, which make up metrical patterns or so-called *tāla* measures. Each unit of time was accompanied, and thus made 'measurable', by a particular gesture. This procedure implies that musical time first had to be organised or divided into regular measures and units. The *tāla* chapter therefore appropriately begins with a discussion of the basic unit and measures of time. The smallest standard is called *kalā* (6.2) and the measures made of them *tāla* (6.3). *Tāla* in the latter sense is comparable to a bar (Am.) or measure (Eng.) as known in Western music. As the most important tool of time measurement, it has been treated in great detail in the text,[513] a fact that explains the size of the present chapter.

Tāla measures (or patterns as we may call them) are differentiated into a number of generic types (*jāti*) (6.4). These patterns were usually employed in their modified or expanded forms. Special attention therefore goes to the unique method of *tāla* expansion (6.5). Even though the formal aspects of *tāla* cheironomy have already been treated in ch. 4, in the present chapter I focus on its application (6.6).

However, before discussing these issues, it is necessary to emphasise the difference between poetical and musical metres.

6.1.1 A formal distinction between poetical and musical metre

A study of the rhythmic system (*tāla*) of ancient Indian music not only requires a thoroughgoing examination of the available sources, but also of related matters such as, for example, Sanskrit prosody. Nevertheless, I have avoided discussions on the relationship between *tāla* (musical metre) and *chandas*, Sanskrit prosody or poetic metre, because a proper study of the latter not only deserves a separate monograph, but also goes against the spirit of Bharata, the alleged author of the Nāṭyaśāstra. Even though one may certainly point out similarities (as well as differences) between musical and poetical metres, we should perhaps keep a strict distinction between these two categories and thereby comply with the wishes of the Nāṭyaśāstra, our basic source from the classical period.

The NŚ appears to make a rough distinction between metres employed in poems and drama on the one hand, and in music on the other. We may thus interpret this as a deliberate attempt not to confuse or mix poetical metres with musical metres. At the end of the section dealing with even and uneven (syllabic) metres employed in plays and poems, the author of the NŚ points out that scholars have taught many other metres as well. However, the employment of the latter category is prohibited in plays and poems because 'they do not create beauty [there]'. On the other hand, these metres are said to be employed in musical compositions such as the *gītaka-s*, which are treated in the chapter dealing with *dhruvā* compositions (*i.e.* NŚ 32, but also chs. 5 and 31).[514]

---

[513] While in India metrical organisation of music developed quite early, in the western world, however, metrical music appears as a 'comparatively modern art'. In this regard, Warren Dwight Allen (1962, 38) observes that "the bar line [cf. *tāla* measure] which too often confuses *rhythm* with *measure*, in the minds of modern students, did not come into use until the seventeenth century."

Abhinavagupta's analysis of the difference between poetical and musical metres sheds further light on their specific nature. He explains that:

> Since singing is free from recitative (or declamation), [as it is usually smooth and even,] it does not depend on the [clear] audibility [and intelligibility of the text] connected with metre. Only the evenness (*sāmya*) of rhythm (*tāla*), performance (*yojanā*) and meaning (*artha*) should certainly be achieved. One therefore takes recourse there to the regulation of morae (*mātrā*) and syllables (*varṇa*).[515]

It has to be admitted that the speech employed in drama and poetry is characterised by its rigid and declamatory style commonly applied to dialogue and narration. This style is close to the rhythm of natural speech, and on that account not so useful in music where it is freely manipulated and subject to sentiment, melody, rhythm, tempo, etc. In its turn, this so-called musical rhythm is not useful for poetical purposes because, as put by Abhinavagupta and some versions of the text,[516] it is 'bereft of poetic beauty' (*hataśobha*). Following Bharata and Abhinavagupta one may thus conclude that the typical *tāla* metres or patterns as commonly applied in the *āsārita-s*, *gītaka-s*, etc., were rejected in drama and poetry on aesthetic grounds, very much in the same way as poetic metres were rejected in musical composition.[517] In this regard, it could be useful to study the text examples Bharata provides for the *āsārita*, *vardhamāna* and *madraka* compositions.

6.2 *Kalā*, a standardised unit of musical time

The NŚ introduces *kalā* as the smallest unit of time for measuring the relative time-duration of sound. *Kalā* is a well-known unit of time in various areas of learning, but in musicology, its conception is completely different and therefore carefully defined in the *tāla* chapter (vv. 1-6). Thus while retaining the old term our author drops its conventional meanings and

---

[514] KSS 16, 148-50 (GOS 15, 192-4; KM 15, 146-8; BI 16, 149-51):

evam etāni vṛttāni samāni viṣamāṇi ca	
nāṭakādiṣu kāvyeṣu prayoktavyāni sūribhiḥ I *148*	*nāṭakādiṣu* KSS *nāṭakādyeṣu* GOS/KM
santy anyāny api vṛttāni yāny uktānīha paṇḍitaiḥ	*paṇḍitaiḥ* KSS/KM *piṇḍaśaḥ* GOS
na ca tāni prayojyāni na śobhāṃ janayanti yat I *149*	*prayojyāni* KSS/PSS *mayoktāni* GOS/KM; *na śobhāṃ janayanti yat* KSS/PSS/KM *hataśobhāni tāni hi* al. omn.
yāny ataḥ param atra syur gītakais tāni yojayet	*param atra syur gītakais* KSS/KM *pratiṣiddhāni gītake* GOS
dhruvāvidhāne vyākhyāsye teṣāñ caiva vikalpanam I *150*	'Ma' Vipulā; *dhruvāvidhāne vyākhyāsye* KSS/KM *dhruvāyoge tu vakṣyāmi* GOS

[515] A.Bhā. on NŚ 15, 193-4 (PSS Vol. II p. 208, ll. 1-3: *gītaṃ paṭhyamānatvābhāvāt na vṛttagatā śravyatāpekṣyate, kevalaṃ tālayojanārthasāmyam avaśyaṃ kartavyam, iti mātrāṇāṃ varṇānāṃ niyamas tatrāśrīyate* ||

[516] See the two preceding notes.

[517] However, this rule is not followed by many early medieval Prabandha compositions, such as the *elā*, and so on.

redefines a distinct unit of musical time that is distinguished from common units of time. The most distinguishing feature of this new standard appears to be its variability (see vv. 5-6). This explains why even prosodic units such as the mora (*mātrā*) and syllabic instants (*akṣara*) such as *guru*, *laghu*, etc., were not considered as suitable standards for *tāla*.[518] Even though these units are profusely employed throughout the music chapters and the *tāla* chapter in particular, their employment is absolutely subordinated to that of *kalā*, especially in the expanded forms of the *tāla* patterns. It thus seems that because of their relatively fixed nature, the conventional units of time were not considered very useful for musical computation, because the latter required a flexible and variable unit that could assume different values in the changing tempi (*laya*) and styles (*mārga*) required by the processes of expansion and contraction. Thus by altering the time value of a *kalā* the measure of the entire pattern could be altered, or expanded. In other words, the expansion (read 'doubling' or 'quadrupling') of the *kalā-s* of the original pattern, naturally resulted in expanded measures of two or four times their original measure. See further § 6.5, below.

The NŚ also introduces *pādabhāga* 'verse-part' or 'foot-part', another unit of time that is closely linked with *kalā*. It is also a fundamental and variable unit whose value doubles in the respective states of expansion. In *ekakala* it had the value of one *kalā*, in *dvikala* of two *kalā-s*, and in *catuṣkala* of four *kalā-s*. The notion of *pādabhāga* is certainly an improvement on that of *kalā* because a) it bears out the literal meanings of the terms *ekakala*, *dvikala* and *catuṣkala*, because it has the time-value of exactly one *kalā* or *guru* in *ekakala*, two in *dvikala* and four in *catuṣkala*, irrespective of *tāla* type and b) as I show below (in §§ 6.5.3.6 f.), the number of *pādabhāga* is indicative of the type of a given pattern, *i.e.* three or six are indicative of an uneven type (*tryaśra tāla*), and four of an even type (*caturaśra tāla*).[519] Thus *pādabhāga* is a convenient concept that indicates the relationship between time (*kalā*) and the state of expansion on the one hand, and that between time and the type of pattern on the other.

Moreover, as stated above, in KM v 50ab (§ 2.9.2), a number of *pādabhāga-s* makes up a *mātrā*, *i.e.* a new metrical unit employed to indicate (equal or unequal) parts of a composition. In that respect it is comparable with a line or verse (*pāda*) of a stanza, whereas *pādabhāga* may best be compared with a 'foot' because like *gaṇa*, the basic unit of rhythm in poetry, it too is made up of a fixed combination of syllabic instants (see also §§ 2.9.2 and 6.5.3.6 f.). So, instead of *gaṇa* and *pāda*, the metrical system of *tāla*, works with an exclusive set of metrical units such as *kalā*, *pādabhāga* and *mātrā*.

It should however be noted that since the relatively 'developed' notion of *pādabhāga* is vaguely mentioned just at the end of the first part of the *tāla* chapter, and only in the KM version (vv. 49cd f.), it is not ruled out that it represents a later stage of formalization. That means that the introduction of *pādabhāga* tries to overrule *kalā* - the presumably older [and perhaps outdated] notion of a variable unit of time, as described in the beginning of the *tāla* chapter. I pursue this matter further in § 6.5.3.6 in the context of *tāla* expansion.

6.2.1 *Kalā*, distinguished from common units

According to the NŚ, *kalā* is the standard unit of time in music. As the building stone of musical metres, it has appropriately been treated first in the *tāla* chapter. *Kalā* further occupies a fundamental position in rhythmic theory and performance; it lies at the basis of important notions, such as *laya*, *mārga* and *tāla*, which, in fact, are all described in terms of *kalā*. This idea is further articulated by its distinction from the commonly known units of time.

---

[518] This is certainly true for the expanded forms, but not for their neutral or basic forms (*yathākṣara*) where the common units are used to indicate the structure of the patterns. See further §§ 6.5.3.1 ff.

[519] On these two notions see below, § 6.3.4.

Bharata casts the introduction of his new unit of musical time (*kalā*) in a polemic setting that is quite unique in the *tāla* chapter. After mentioning a few examples of commonly known units of time (such as *kalā*, *kāṣṭhā* and *nimeṣa*, etc.), and then categorically rejecting their applicability in *tāla* (v. 2), he contrasts the way *kalā* is conceived in other schools of learning with that in musical metre (*tālakalā/tālajā kalā*) (v. 3). Then his own position is clarified, namely that *kalā* is conceived in terms of *laya*, *i.e.* the period of 'rest' between beats or gestures of the hand. But the notion of *laya* is tantamount to that of *mārga*, *i.e.* the musical 'path' that coordinates most of the temporal and rhythmical factors involved. This approach to *kalā* is certainly new and indeed unique because of the association with the variable notions of *laya* and *mārga*. Especially the direct association with *laya* - perhaps the most central and characteristic aspect of *tāla* - renders the *kalā* in music also a variable unit, unlike *nimeṣa*, *mātrā*, etc., whose value is relatively fixed in the individual systems of reckoning time. It is this variability that distinguishes *kalā* from other commonly used units. Before discussing the idiosyncrasies of *kalā*, first a few words on its intimate relationship with the notions of *laya* and *mārga*.

The *kalā* unit of time as employed in *tāla* (*tālajā kalā*), is explicitly stated to be of a different order.[520] Even though the argumentation leading to its description, or say 'definition', is apt to be misinterpreted (see above, v. 2), the outcome is anyway very clear.

First a number of current time-units such as *kalā*, *kāṣṭhā* and *nimeṣa* are contrasted with the one accepted by the musicologists. *Nimeṣa*, etc., occur in a system of logical units of time, also including the concrete day-and-night unit (*ahorātra*). It is the inclusion of the latter unit that makes it possible to determine the exact value of smaller units in terms of 'seconds', etc. Most of the systems of time computation in India[521] also reckon with *kalā*, *kāṣṭhā* and *nimeṣa*, often grouping them together in a comprehensive series of closely related units standing in a more or less fixed ratio to one another.[522] Among them *nimeṣa* usually

---

[520] Could the fact that the author dissociates his definition of *kalā* from that of other systems, be interpreted as as representing the secessionist's view that *tāla* in music forms a separate and independent branch of learning, as laconically alluded to by Abhinavagupta? (A.Bhā. Vol. IV, p. 151, ll. 3 f. *tāla ity ākṣipya gāndharvanāṭya-bhedena yo viṣayavibhāgaḥ kṛtaḥ, sa tuccha, ity asmabhyaṃ na rocate*).

[521] See, e.g. S. Chattopadhyay's Appendix titled "Divisions of Time" (tucked in the papers on "Kāla") in *Kalātattvakośa* (Delhi 1992) pp. 215-21 where a number of lists of concrete (*mūrta-kāla*) and abstract time (*amūrta-kāla*) in Sanskrit literature are included. See also the following note.

[522] For a general impression of the relative value of these units I reproduce the relevant parts from Chattopadhyay's survey of dividing time in Sanskrit literature (*ibid.*):

Śatapatha Brāhmaṇa 12, 3, 2, 1-5	1 *nimeṣa*	=	0.0568889 second approximately
Śāṅkhāyana Āraṇyaka 7, 20	1 *nimeṣa*	=	57.6 seconds
	2 *nimeṣa-s*	=	1 *kāṣṭhā* (114.2 seconds)
	2½ *kāṣṭhā-s*	=	1 *kalā* (288 seconds or 4.8 minutes)
Manusmṛti 1, 64-71	1 *nimeṣa*	=	0.177778 seconds
	18 *nimeṣa-s*	=	1 *kāṣṭhā* (3.2 seconds)
	30 *kāṣṭhā-s*	=	1 *kalā* (96 seconds or 1.6 minutes)
Arthaśāstra 2, 20, 29-64	1 *nimeṣa*	=	0.24 second
	5 *nimeṣa-s*	=	1 *kāṣṭhā* (1.2 seconds)
	30 *kāṣṭhā-s*	=	1 *kalā* (36 seconds or 0.6 minutes).

represents the smallest unit, and *kāṣṭhā* and *kalā* its subsequent higher multiplications.[523] The proportional measure or duration of these units is thus relatively fixed in each system, though it varies strongly in comparison to that in other systems. It is obviously because of this want for consensus that it is not possible to determine their actual or approximate value.[524]

Anyway, the *kalā* mentioned in these systems, is not the one used in *tāla*! In order to show that the *kalā* employed in *tāla* is different, Bharata argues as follows:

(1) five *nimeṣa-s* make a *mātrā*;
(2) a combination (or multiplication) of *mātrā-s* makes a *kalā*;
(3) in musical time, (multiplications of) five *nimeṣa-s* constitute the variable *kalā* span of time.

Bharata's definition of *kalā* in terms of *mātrā-s* (2) as well as *nimeṣa-s* (3) seems to serve an analytical purpose, and should on that account not be dismissed as a case of inconsistency. First, by relating *kalā* to *mātrā-s*, he defines it in a *formal* or *abstract* way. It is with reference to an abstract feature of *kalā*, viz. its *variability*, that Bharata states that *kalā* assumes the value of 2, 4 and 8 *mātrā-s* in the respective styles (see above, v. 6). Second, to allow the abstraction of *kalā* to be related to *concrete* time, he also describes it in terms of *nimeṣa*, a unit that can be measured concretely.

Abhinavagupta clarifies Bharata's point as follows:

> Doubting whether *kalā* [in *tāla*] is (identified with) *nimeṣa* as is well-known in traditional sources, or [as defined by contemporary authors as a] group of either six, eight or ten *nimeṣa-s*, (Bharata) states that 'five *nimeṣa-s* (constitute a *kalā*'). [In other words,] the division (*pariccheda*) of musical time is an interval of a *kalā*, namely a measure of five *nimeṣa-s*, [or the time necessary to pronounce] a sequence of five short syllables, (such as for example,) '*ka*', '*kha*', '*ga*', '*gha*' and '*ṅa*'. The distinct nature of *kalā* occurs from the ascertainment that the time [necessary] for manifesting [*i.e.* for pronouncing these syllables] has an independent appearance [*i.e.* that of a distinct and concrete unit of time].[525]

Viṣṇu Purāṇa 1, 3	1 *nimeṣa*	=	0.2133333 second
	15 *nimeṣa-s*	=	1 *kāṣṭhā* (3.2 seconds)
	30 *kāṣṭhā-s*	=	1 *kalā* (96 seconds or 1.6 minutes).
Bhāgavata Purāṇa 3, 11, 5-15 and	1 *nimeṣa*	=	(0.4266667 seconds)
Brahmavaivarta Purāṇa (?)	3 *nimeṣa-s*	=	1 *kṣaṇa* (1.28 seconds)
	5 *kṣaṇa-s*	=	1 *kāṣṭhā* (6.4 seconds)
	[The unit called *kalā* is missing in these 2 Purāṇa-s]		
Bhāskara's Siddhānta	1 *nimeṣa*	=	0.0888888 second
Śiromaṇi 1, 19, 20	18 *nimeṣa-s*	=	1 *kāṣṭhā* (1.6 seconds)
	30 *kāṣṭhā-s*	=	1 *kalā* (48 seconds)

See also M. Lath (1978, 317, n. 1) who discusses another system from the Viṣṇudharmottarapurāṇa (1, 73, 1) where a *nimeṣa* is about 0.20 second.

[523] At least in the Śatapatha Brāhmaṇa, Manusmṛti and Viṣṇu Purāṇa, *nimeṣa* is reckoned as the smallest division of time, but still smaller units are accounted for in other works. Cf. Chattopadhyay *ibid.*

[524] Nonetheless, some approximations have been suggested by M. Lath 1978, 317, n. 1.

[525] A.Bhā. p. 153, ll. 4-7 [1]*śāstrīyā* [...] *nimeṣā atiprasiddhā, nimeṣaṣaṭkāṣṭakadaśakaṃ kaleti vā pramāṇaṃ pañca syād ity āśaṅkyāha nimeṣāḥ pañca iti* | [2]*gītakālasya* [3]*paricchedaḥ kalāntaraṃ*

A parallel section from the Datt. (114cd-18ab) interprets the verses from the NŚ very differently, namely as reflecting an alleged controversy about the determination of certain basic units of time.[526] Dattila reviews at least two different views. After enumerating seven gestures, which Dattila collectively designates as *kalā*, he states that,

> Some (masters) have taught the sevenfold *kalā* in terms of *nimeṣa* span of time and that they conceive of a [variable] *kalā* interval of time on the basis of the *laya* in (relation to) the *mārga-s*. And for those people who consider [the long-drawn sound of] a resounding bell as [the span of] an entire *kalā*, for them the difference between the *mārga-s* depends on *kalā-s*: (because) a *kalā* is said to comprise two *mātrā-s* in *citra* (*mārga*), four in *vārtika* and eight in *dakṣiṇa*.
>
> The *mātrā* [mentioned here] is not the commonly [known *mātrā*], but one having five times its value. With this [different *mātrā*] the measurement of *kalā* should be done [in music].[527]

As observed above, Bharata indeed introduces his new unit of musical time (*kalā*) in a slightly polemic setting by rejecting the common units, such as *kalā*, *kāṣṭhā* and *nimeṣa*, as inappropriate in *tāla* (v. 2). He thus contrasts the *kalā* as used in other branches of learning with that used in rhythm (*tālakalā*/*tālajā kalā*) (v. 3). However, the different views as enumerated by Dattila, are not as such immediately discernable in Bharata's account. If there had been a controversy in the past, all differing views appear to have been integrated and harmonized in the NŚ. The first view, according to which *kalā* is based on *nimeṣa*-spans, does not seem to be inconsistent with Bharata's view, because through the intermediate conversion into *mātrā-s*, *nimeṣa-s* may indeed be said to constitute *kalā*. The second view that explicitly works with *mātrā* units, is fully consistent with the position accepted by the NŚ, only the fundamental position of *nimeṣa-s* is denied. Furthermore, the conceptions of *kalā* as depending on the state of *laya* and the *mārga-s* (view 1) as well as that of the difference of *mārga-s* on the basis of *kalā-s* (view 2), are not really different, but, in fact, implied (v. 3).

Note that while the NŚ cautions that the *kalā* in rhythm should not be confused with the one that is commonly known (v. 2), Dattila warns that the *mātrā* should not be confounded. How this incompatibility with the NŚ should be resolved, is not clear. Given the complexities

---

nimeṣā hrasvākṣarapañcakaṃ yāvat | *ka-kha-ga-gha-ṅa iti vyañyanakālasya pṛthakavabhāsa iti pratipādanāt kalāviśeṣatvam eva ity* [...]).

[1]*śāstrīyā (a)syā na nimeṣā (a)tiprasiddhā* GOS. [2]*gītakālasya* GOS *gītasya kālasya* GOML ms. [3]*paricchedakālāntaraṃ* GOS *°kalāntaraṃ* GOML ms. My emendation to read *paricchedaḥ*, a nominative, is based on a similar occurrence where *pramāṇaṃ* and *pariccheda* are also identified in A.Bhā. p. 154, l. 6 [...] *tasya yat pramāṇaṃ paricchedas.*

[526] The ample use of pronominal forms such as *kaiścit* and *yeśāṃ...teṣāṃ*, which, in Sanskrit polemic discourse, usually refer to those who hold different views, is indicative. See the following footnote.

[527] Datt. 114cd-1a:

kaiścin nimeṣakāle(na) kalā saptavidhoditā ||
layasthityā ca mārgeṣu kalpitaṃ taiḥ kalāntaram |
sarvā ceyaṃ kalā yeṣāṃ ghaṇṭā nādavatī yathā ||
teṣāṃ [citrādi] mārgeṣu viśeṣo 'yaṃ kalāśrayaḥ |
dvimātrā syāt kalā citre caturmātrā tu vārtike ||
aṣṭamātrā tu vidvadbhir dakṣiṇe samudāhṛtā |
mātrā tu laukikī neha kintu pañcaguṇā tataḥ ||
tayā kāryaṃ kalāmānaṃ.

involved in the relationship between these two works, we cannot enter here into the discussion as to whether the NŚ or the Datt. represents the original or the adapted situation.

6.2.2 *Kalā* and *laya*

Bharata introduces the notion of *laya* primarily to clarify *kalā*. After defining the latter as the standard unit of time in *tāla* (vv. 2-3), attention is drawn to its distinguishing feature, namely its variability. We observe that this characteristic determines the measure of 'rest' (*laya*) between successive beats and therefore also the 'tempo'[528] and eventually the 'style' (*mārga*) of the performance (vv. 4-6).

The association of *kalā* with *laya* in particular requires further explanation. In the *tāla* chapter this word is used in two basic meanings: (1) in the primary sense of 'rest' (*viśrānti*), *i.e.* the interval or pause between beats or gestures with the hand; and (2) in the general sense of tempo or pace in which the beats and gestures proceed.[529] For understanding the typical Indian notion of *laya* I avail myself of a cosmological as well as a musicological explanation, both of which are supported by etymology and meanings of the word.[530]

In a cosmological sense *laya* refers to 'dissolution'. As described by, for example, the Epics and Purāṇa-s, the universe is caught in a *cosmic rhythm* of periodic destruction and re-creation.[531] The cyclical character of cosmic time is envisaged as an eternal flux or alteration of action and rest. In this respect, the concrete phases of creation and preservation of the universe represent cosmic *action*, whereas the following state of destruction or dissolution represents cosmic *rest* (*pralaya*). In fact, the period of 'rest' is nothing but the intermediate phase between successive periods of activity. In Indian musicology, the cosmic notion of rest (read: time) determined by action, has been adapted beautifully by the term *laya*. There it refers to the 'rest' or 'pause' between successive beats, or moments of action, expressed in terms of time or *kalā*.

Since *kalā* as well as *laya* represent different aspects of time, both may be said to be generally[532] marked or measured by cheironomical gestures and beats (*pāta*). In other words, time is measured and manifested by action and *vice versa*, and the temporal distance between subsequent gestures is expressed by *kalā-s*.

Here attention should be drawn to the mathematically inverse relationship that exists between beat and tempo,[533] *i.e. kalā* and *laya* respectively. The former represents the duration (*kalā*) of a beat (*pāta*),[534] and the latter the duration (= rest, *laya*) framed by two successive beats. Both notions relate to the same period of time, but from different perspectives. As aptly noted by Abhinavagupta, "*kalā* itself has no independent status without (the notion of) *laya*."[535] This also applies the other way round. Thus, the duration of rest between successive beats determines their speed or tempo (*laya*). In other words, the *duration* of a beat is determined by the *frequency* of a sequence. The relationship between frequency and duration is inverse; this means that when the tempo increases, the duration of beats decreases in an inverse ratio.[536] This idea is relevant in the discussion of the related aspect of proportional tempo in Indian music.

---

[528] In SR *laya* is accordingly defined as 'the pause between beats' (5, 48 *kriyānantarviśrāntiḥ*).

[529] Bharata indeed uses the word *laya* to denote 'rest' as well as 'tempo', though without clarifying the distinction between these two meanings. This means that the meaning of the word *laya* is almost always ambiguous. In the opening verses of the *tāla* chapter where the notion of *kalā* is introduced, *laya* denotes the 'rest' between successive beats and stands therefore for the intermediate measure of time called *kalā*. In the sense of 'tempo' it is discussed later on in a purely rhythmical context towards the end of the chapter (vv. 530cd-32ab ff.). The reader should be cautioned not to overestimate this distinction. In both sections the notion of *laya* is ambiguous.

[530] See further P. L. Sharma 1992, 385-98.

[531] See above, n. 372.

[532] This restriction has to be made because no gestural accompaniment was prescribed during the *upohana*, that is, an opening tactic in most of the musical compositions such as the *gītaka-s*, etc. This restriction applies at least for the earliest period, because later on some form of action with the fingers appears to be allowed even there.

[533] Cf. D. Epstein, pp. 101 ff.

Theoretically, *kalā* can assume numerous measures, but Bharata restricts himself to only three varieties, namely of two, four and eight morae (*mātrā*). In this way a variable *kalā* of three types was conceived. Notably, these values are correlated with a corresponding tempo, style, etc. *Laya* in the sense of tempo, has also been said to have three varieties: 'fast', 'moderate' and 'slow'. Notably, the triplets of time-units and tempo's are related to one another in an inverse ratio. The change of pace or tempo has a bearing on the duration of the beats. The *kalā* span of time between beats, in fact, determines the 'rest' or 'pause' between them, so when the tempo of the beats, or their duration, is altered, *i.e.* increased or decreased, the other is bound to be effected. The Indian notion of tempo shows close resemblances with what is known in Western music as proportional tempo.[537] The variation accepted by Indian tradition shows a gradual increase or decrease of *tempo* by a factor of two, and the immediate bearing on the *duration* of beats is that it increases or decreases by the inverse ratio.

Table 20 *Laya* and *mārga* related to time values.

mārga	*laya*	(tempo)	'rest'	*mātrā-s* per *kalā*
citra	*druta*	'fast'	> 'short'	2
vṛtti	*madhya*	'moderate'	> 'medium'	4
dakṣiṇa	*vilambita*	'slow'	> 'long'	8

As described by the NŚ, these three categories of tempo appear to have been applied in actual practice, though unlike contemporary Indian music, where they merely represent a theoretical plan or model for geometrical progressions of tempo, e.g. by multiplying each tempo by a constant factor of two to derive the next speed.[538] It is thus used primarily for pedagogical purposes and sometimes by percussionists to demonstrate their rhythmic command or skills. In fact, the transition from one tempo to the other takes places rather 'smoothly' with some intermediate phases, rather than the graceless 'leaps' prescribed by the 'theoretical model' of the NŚ.

In his 'definition' of *kalā* (see discussion below), Bharata relates it directly to *mātrā*. *Mātrā* is a basic metrical unit of time ('mora' or 'prosodic instant') commonly used in various branches of learning such as, for example, grammar, prosody, poetics, etc. Its fundamental value is recognised in the *tāla* system of reckoning and figures as an important unit of time, but absolutely subordinated to that of *kalā*. It is on the basis of *mātrā-s* (as constituent elements) that the variability of *kalā* is envisaged (see vv. 5-6).

---

[534] In discussions which follow, I use the English word 'beat' in a general sense indicating any kind of motion (either silent or audible), unless contrasted with silent gestures.

[535] A.Bhā. (p. 153, l. 16) *kalāyā eva ca layaṃ vinā na svarūpalābho.*

[536] See further Epstein, pp. 102 ff.

[537] *Druta*, *madhya* and *vilambita* are related 1 : 2 : 4, in the same way as, for example, Largo, Andante and Allegro. Cf. D. Epstein, pp. 97-363 and C. Sachs 1953, 205 ff.

[538] Cf. Epstein, *ibid.*, p. 113.

After relating *kalā*, as a standard unit of time, to *laya*, the unit of rest (*laya*) (v. 4), Bharata also lays down a standard for the latter. *Laya* apparently also required a relative standard according to which other *laya-s* could be derived. Bharata therefore accepted the 'medium rest' as a standard unit of time (*pramāṇakalā*).[539] Although he does not spell out the moric value (*mātrā*) of each *laya*, we may infer this from the correlationship between the *laya-s*, *mārga-s* and *mātrā-s* (see table above). The value of the *kalā-s* in the respective *mārga-s* is determined as follows: two *mātrā-s* in *citra*, four in *vṛtti*, and eight in *dakṣiṇa mārga*. The literal meanings of the three *laya-s* now help in determining the value of each *laya*. Since the medium 'rest' has been accepted as a standard *kalā* (*pramāṇakalā*), it follows that *vilambita* (lit. 'delayed') represents its 'protracted' or 'prolonged' form, whereas *druta* (lit. 'fast') its 'accelerated' form. When this line of derivation is analogously applied to the values, it follows that in relation to the four *mātrā-s* of *madhya laya*, a 'prolongation' with a factor of two yields the *vilambita laya* of eight *mātrā-s*, whereas an 'acceleration' with the same factor, the *druta laya* of two *mātrā-s*. These correlations have been confirmed by the NŚ itself in other places. See further §§ 9.4-7 where *laya* is described as a rhythmic or dynamic aspect of *tāla*.

While in ancient Indian music the moderate tempo was the standard, in present Indian classical music this position has been occupied by the slow tempo (*vilambita*) from which the *madhya* 'moderate' and the *druta* 'fast' are derived as its subsequent speeded or accelerated forms.

This approach to the concept of tempo appears to be opposed to its Western counterpart, because while the former stresses the aspect of 'rest' [read: time] between beats, the latter perhaps emphasises the dynamic aspect of 'speed'. These apparently opposite approaches are not necessarily contradictory, in fact, they are related and cognate notions, because increasing or decreasing 'speed' also means decreasing or increasing the 'rest' and *vice versa*.[540]

6.2.3 *Kalā* and *mārga*

The relationship between time and tempo has been outlined above. However, for a holistic view of the ways time relates to the dynamic aspects of the performance, we may also consider the factors that are governed by *mārga* (style). In a musical context, the word *mārga* literally refers to the 'path' that is followed. In a general sense it represents the 'style' or 'procedure' that involves a correlation between numerous musical factors, such as, for example, *mātrā*, *kalā*, *laya*, *tāla*, *vādya*, *yati*, *pāṇi*, etc.

The correlation between all these factors is not explicitly stated in the *tāla* chapter, except that between (*mātrā*, *kalā*,) *laya* and *mārga*, indicated by the correspondence of three *laya-s* with three *mārga-s* (see preceding table). However, in a somewhat different context earlier in the text (see below, n. 543) we learn more about the governing nature of *mārga* (only the word *mārga* is replaced there by *vṛtti*).[541] Music (*vādya*) or musical gait (*gati*) is said to be based on three styles (*vṛtti*), called *citrā*, *dakṣiṇā* and *vṛtti*. They are characterised by the predominance (*prādhānyena*)[542] of instrumental music, singing and both respectively.[543] In an interesting prose passage the KSS version further clarifies that the musical factors, such as the 'type of accompaniment' (*vādya*),[544] the 'state of expansion' (*tāla*), 'tempo' (*laya*), 'tempic control' (*yati*),[545] the way of 'beginning' (*graha*),[546] and the 'type of song' (*gīti*) manifest the *vṛtti-s* each in their own way (*yathāsvaṃ*).[547]

---

[539] See v. 5ab *madhyo ...layas tat pramāṇakalā*.

[540] To increase 'speed' is the same as to decrease 'rest' between subsequent beats, and to increase 'rest' is the same as to decrease 'speed'.

[541] The word *vṛtti* (f.) appears to be used as a synonym for *mārga* (m.). Although there appears to be no clear-cut difference between these two words, it sometimes seems that the former particularly

---

relates to the style of instrumental music and accompaniment and the latter to the musical style in general. Śārṅgadeva even seems to classify the *mārga-s* under the *vṛtti-s* (SR 6, 170). See also Mātrālakṣaṇa 1, 14 (*tisro vṛttayo bhavanti | drutā madhyamā vilambiteti*) where *laya* seems to be confused with the *vṛtti*. Note the striking similarity of this line with NŚ 31, 4cd. It is most likely that the former is rephrasing the latter.

[542] Cf. the line *tisro gativṛttayaḥ prādhānyena grāhyāḥ* below, n. 547.

[543] GOS 29, 70cd-71; KM 29, 72cd-73 (In KSS the text immediately after v. 29, 100cd is in prose):

tisṛṇām api vṛttīṇāṃ yeṣu vādyaṃ pratiṣṭhitam	*yāsu* KSS 29, 100cd *yas tu* KM *yeṣu* GOS
tisras tu vṛttayaś citrā-dakṣiṇā-vṛtti-saṃjñitāḥ	Prose in KSS, *see below*, n. 547.
vādya-gītobhayaguṇā nirdiṣṭās tā yathākramam	Prose in KSS, *see below*, n. 547.

[544] As regards the music on harps the notion of *vṛtti* appears to follow a separate classification, of which the main modes of instrumental accompaniment (*vādya*) are called *tattvam*, *anugatam* and *ogha*. See further KSS 29, 102-6; KM 29, 78-80; GOS 29, 76-8; BI 29, 108-112.

[545] On the special relationship between *yati* and *mārga*, see § 9.7.2.1, below.

[546] The occurrence of the word *mārga* here at the end of the list, is certainly puzzling. It may be eliminated by reading it along with the preceding word, i.e. as *graha-mārga*, analogous with the verbose style of describing some of the other factors, such as *druta-laya*, *samā-yatiḥ*, etc. Cf. Ghosh, Transl. II, p. 43 n. 6.

[547] The prose passage that occurs immediately after KSS 29, 100cd (cf. n. 543), is omitted in the KM/GOS/K Mss. and the Abhinavabhāratī. A reconstructed version on the basis of the KSS (p. 338), GOS (pp. 101 & 133 f. = KSS version) and BI (p. 31) runs as follows:

tisro gativṛttayaḥ prādhānyena grāhyāḥ, citrā-vṛttir-dakṣiṇā ceti | tāsāṃ vādya-tāla-laya-giti-yati-mārga-pradhānyāni yathāsvaṃ vyañjakāni bhavanti	*gativṛttayaḥ* KSS/BI *giti°* GOS p. 101 *gīta°* GOS p. 133; *dakṣiṇā* KSS/GOS *dakṣiṇāś* BI; *vādyatālalayagiti°* KSS/BI/GOS p. 133 *tālagitilaya°* GOS p. 101; *vyañjanāni* KSS/BI *vyañjakāni* GOS
tatra citrāyāṃ saṃkṣiptavādyaṃ tāladrutalayasamā yatiḥ, anāgatagrahāṇāṃ prādhānyaṃ	*saṃkṣiptavādyaṃ tāladrutalayasamā yatiḥ* KSS {*°vādyatāladrutalayasamāyatir* GOS} *saṃkṣiptavādyaṃ [māgadhī gitir, ekakala-]s tālo, druto layaḥ, samā yatiḥ* BI; *pradhānaṃ* GOS p. 134
tathā vṛttau gitavāditradvikalatālamadhyalayasrotogatā yatiḥ, samagrahamārgāṇāṃ prādhānyam	*gitivāditradvikalatālamadhyalayasrotogatā yatiḥ* KSS {*gitavāditra°* GOS p. 101} *[sambhāvitā] gitiḥ. vāditraṃ, dvikalas tālo, madhyo layaḥ, srotogatā yatiḥ* BI; *samagra-mārgāṇāṃ* KSS *samagrahamārgāṇāṃ* BI
dakṣiṇāyāṃ giticatuṣkalatālavilambitalayagopucchā yatiḥ, atītagrahamārgāṇāṃ prādhānyam	*giticatuṣkalatālavilambitalayagopucchā yatiḥ* KSS/GOS {*°gopucchikāyaty* GOS p. 134} *[pṛthulā,] gitiś, catuṣkalas tālo, vilambito layo, gopucchā yatir* BI

Table 21 Correlation between rhythmical factors

Style (vṛtti)	Accompaniment (vādya)	Expansion (tāla)	Tempo (laya)	Restraint (yati)	Entrance (graha)	Song type[548] (gīti)
citrā	vādya	(eka-kala)	druta	samā	anāgata	[māgadhī]
vṛtti	gīta-vāditra[549]	dvi-kala	madhya	srotogatā	sama	[sambhāvitā]
dakṣiṇā	gīti	catuṣ-kala	vilambita	gopucchā	atīta	[pṛthulā]

As notable in the table above, each of the *vṛitti-s* (read: *mārga-s*) is directly related to a full set of musical factors, such as one particular *laya*, one particular state of expansion (*tāla*), and so on. With respect to *laya*, one may thus conclude that the *citrā* style is related to the fast tempo (*druta*), the *vṛtti* style to the medium tempo (*madhya*), and finally the *dakṣiṇā* to the slow tempo (*vilambita*).

The parallelism that was suspected to exist between *laya*, *mārga*, and many other factors as well, is clearly confirmed by the passage discussed above. Further on towards the end of the *tāla* chapter where the *laya-s* are again discussed (vv. 530cd-45), though in a more rhythmical context, the correlation between the *laya-s* and the *mārga-s* is more clearly pronounced: "the (three) *laya-s*, that are characterised by instrumental music, singing or by both (respectively), are made manifest in the [respective] *mārga-s*."[550]

6.2.4 The assumption of *dhruva mārga*

The arithmetic progression of *mātrā-s* in the subsequent *laya-s* allows the possibility of envisaging an indefinite number of *mārga-s*. Each following number is a multiplication of the preceding one with a factor two. Although Bharata does not mention other *laya-s* or *mārga-s* than the three mentioned above, his arithmetical method leaves room for other derivations. It cannot therefore be ruled out that his classification already presumed the existence of a fourth and fundamental *laya* or *mārga* that corresponded with a time unit (*kalā*) of just one *mātrā*. This was certainly the case with Dattila,[551] Mataṅga and others. Abhinavagupta, for example, explains that the measuring unit (*i.e. kalā*) has been taught to be fixed (*niyata*) [in the *mārga-s*] and that by doubling the value of five short syllables (*mātrā*) in [three] successive stages, the three *mārga-s* are made manifest [*i.e.* with 2, 4 and 8 *mātrā-s* respectively].[552] Abhinavagupta certainly must have observed that the series of doublings presuppose a hypothetical *mārga* with a *kalā* of just one *mātrā*, because otherwise the disregard for the unit of one *mātrā* in the binary series, serves no practical purpose. He therefore concludes that there is no doubt that Bharata had to coin the term *mātrā* because there (also) exists a fundamental style called *dhruva mārga*, which is free from any duplication whatsoever.[553]

---

[548] The *gīti-s* are not specified here, but from other passages in the NŚ (as well as other sources) we may infer that *māgadhī* relates to *citrā*, *sambhāvitā* to *vṛtti* and *pṛthulā* to *dakṣiṇā*. Cf. KSS 5, 184cd-87; 29, 76cd-80; 31, 453-5; GOS 32, 431-4 (om. in KSS) and Bṛhaddeśī 1, section 7 (vol. I, pp. 118-29).

[549] The word *gīta-vāditra* 'song-instrument' in KSS seems to subscribe to the view that the music in *vṛtti* consisted of a balanced distribution of song and instrumental music.

[550] KSS 31, 532ab *mārgeṣu vyaktim āyānti gītavādyobhayātmikāḥ* |

[551] Cf. Datt. 240cd f. *atha mārgā ya uddiṣṭās teṣāṃ mūlaṃ dhruvaḥ smṛtaḥ* | *mātrikaḥ sa prayoktavyaḥ suviviktalayānvitaḥ*. SR 5, 11b *dhruvake mātrikā kalā*. Of particular interest is Kallinatha's commentary on SR 5, 38 f.

[552] Cf. A.Bhā. (on NŚ 31, 7) p. 155, ll. 1f. *itaś ca niyataṃ parimāṇam uktam* | *pañcalaghvakṣaraṃ tad eva dviguṇaṃ, tad dviguṇaṃ krameṇa mārgatrayam āvirbhāvayati* |

Somewhat later a commentator on the Bṛhaddeśī even mentions a fifth style, namely *śūnya mārga*, that had a *kalā* of half a *mātrā* (*i.e.* a *druta*).[554] In later sources, this proliferation was pushed even further with the introduction of other derivations. Due to the nature of the later music (*deśī*), which apparently required further fractionalization of the existing units of time, the Saṅgītacuḍāmaṇi (12th century), for example, came to reckon with a system of six *mārga-s* (*ṣaṇmārgāḥ*), with the introduction of two more derivations, namely *citratara* and *citratama*.[555] The development ultimately reached its top point with the number of twelve *mārga-s* (*dvādaśamārgāḥ*).[556]

It should be noted that the proliferation of *mārga-s* implies a corresponding development of the *laya-s* and other factors involved. For example, the commentator on the Bṛhaddeśī mentions nine ways of applying *laya* in the three standard *mārga-s*. In this method the variability of time or rest (*laya*) is expressed in terms of *mārga*, whereas the basic value in three consecutive triads of *mārga* is halved, *i.e.* from *guru* to a *druta* (S > I > O).[557]

Table 22 The variable value of *kalā* in the various *mārga-s*.
(S, *guru* = 2 *mātrā-s*; I, *laghu* = one *mātrā*; O, *druta* = half a *mātrā*)

Laya	Dakṣiṇa mārga		Vārtika mārga		Citra mārga	
vilambita	SSSS	Dakṣiṇa	SS	Vārtika	S	Citra
madhya	SS	Vārtika	S	Citra	I	Dhruva
druta	S	Citra	I	Dhruva	O	Śūnya

6.3 *Tāla* measures

6.3.1 Introduction

The NŚ uses the word *tāla* mostly in the sense of standardized measures or their modified or expanded forms, the so-called *ekakala*, *dvikala* or *catuṣkala* states (vv. 1-58ab). It is accordingly designated as *pramāṇa* or *māna* (measurement or means of measuring).[558] Bharata opens the NŚ 31 stating that '*tāla* is the measurement of time' (see above, ch. 2) and in one version of the text, he accordingly winds up the chapter, saying "singing (*gāna*) should thus be known by means of *tāla* measures."[559] Since time and action are hardly distinguishable from one another (see § 8.2), it has appropriately been observed by Amara, an early Sanskrit lexicographer, that '*tāla* is the measurement of (both) time and action.'[560]

---

[553] *Ibid*. ll. 2f. *tena mātrāsaṃjñā kartavyeti nāśaṅkanīyam* | *yatra tu na dvaiguṇyāṃśa,* [1]*mūlabhūtatvāt dhruvakamārgam ucyate.* [[1]Splitting of the text mine]

[554] See *Bṛhaddeśī* Vol. I, pp. 126-8, vv. 182-3, Anu. 113.

[555] As is reported in the case of the Saṅgītacuḍāmaṇi (12th century) (51-4). For references see Abhinavatālamañjarī 2, 17 (p. 31) and M. R. Gautam 1989, 230. It seems that certain traditions substitute the terms *citratara* and *aticitratara* for the *dhruva* and *śūnya mārga-s* respectively. Cf. Saṅgītamakaranda 3, 56-9. Others even discard the *dakṣiṇa* and *vārtika* and accept four or more *mārga-s* that are relevant only for the later period (*deśī*), such as *citra*, *citratara*, *citratama* and *aticitratama*. See notes on p. 271 recorded by the editor of the Nāṭyasarvasvadīpikā.

[556] A work called Maṇidarpaṇa is reported to mention six more derivations, viz. *caturbhāga*, *truṭi*, *anutruṭi*, *gharṣaṇa*, *anugharṣaṇa* and *svara*. See Abhinavatālamañjarī 2, 18-9 (p. 31).

[557] *Ibid.*

[558] Cf., for example, KSS 31, 1 *tālo....kālasya tu pramāṇam*; 7 ab *kalākālapramāṇena tāla ity abhidhīyate*; 200 *cd kartavyaṃ* [...] *tālamānataḥ*; GOS 367 d *jñeyaṃ gānaṃ tālapramāṇataḥ*; see further, KSS 5, 142 a *tālapramāṇasaṃkṣiptam*; 144 a *anena hi pramāṇena*; 151 ab *kartavyas* [...] *tālapramānataḥ*; KSS 13, 23cd *catustālapramāṇena kartavyātha gatir budhaiḥ*; GOS 29, 112 *āsāritāni* [...] *tālapramāṇanirdiṣṭāni*; etc.

As indicated above, in § 4.1, the cheironomical motions accompanying the performance, were grouped into equal (periodic) units, which provided the measures by means of which musical time could be structured and measured.[561] Since the constituent beats had different durations, they made up measures, which each had a relatively unique structure. On their function and purpose see further ch. 7.

The NŚ describes five standard measures: *cañcatpuṭa*, *cācapuṭa*, *ṣaṭpitāputraka*, *sampakveṣṭaka* and *udghaṭṭa*. Of these five, the first two are fundamental, because they form the basis for deriving the others. Prima facie, these names appear to be meaningless, but the number, order, and value of their constituent syllables (or syllabic instants) and accompanying gestures, in fact, constitute essential parameters that indicate their structural characteristics.

The so-called syllabic state of a given *tāla* pattern (*yathākṣara*), is characterised by a typical arrangement of syllables of different values. Their names are useful mnemonics and function like blueprints that reflect the major characteristics of the rhythmic structure of that pattern. Each syllable was assigned a fixed value or duration, *viz.* either short (I), long (S), or protracted (Ś), and was represented by a single beat. In this way, each pattern was also characterised by a fixed arrangement of beats. However, when their modified or expanded form is used, the variety of different time values is transformed into a homogeneous pattern of long syllables (*guru*) only (see § 6.5.3.1, below).

Another aspect, closely related to *tāla* measures, is that of genera. In this respect *tāla* denotes a number of genera or types of musical metre, such as *caturaśra* (quadruple), *tryaśra* (triple) and *miśra* (mixed metre). See further section 6.4 where I address the proliferation of *tāla* types.

Only the first two types are illustrated by means of their species, viz. *cañcatpuṭa* and *cācapuṭa* respectively (vv. 7-12). These two primary types are also fundamental, because other types are said to be derived from them. The so-called *miśra* type (vv. 13-4), poses a problem because its meaning and nature have not been explained satisfactorily. The remaining three forms of *tāla-s*, viz. *ṣaṭpitāputraka* 'having sons from six fathers', *sampakveṣṭaka* 'having thoroughly baked bricks' and *udghaṭṭa* 'having an opening' (vv. 12-24), which are usually regarded as examples of the *miśra* type, are unmistakably reckoned by the NŚ as varieties of the *tryaśra* type (see above, vv. 19, 22 and 24).

The Sanskrit terms *caturaśra* and *tryaśra* generally denote structures that have four or three angles or corners (*aśra/aśri*), *i.e.* squares and triangles respectively. For example, in the construction of the stage, *tryaśra* refers to its three corners (GOS 2, 102a *tryaśraṃ trikoṇaṃ kartavyaṃ*)[562] and *caturaśra* to four. But in the present context they function as time signatures designating separate types of metrical patterns, which are characterised by a specific measure of time indicated by the number of *kalā-s* in a bar. Accordingly they are characterised by the even or odd number of *kalā-s* per bar, *i.e.* 4 and 3 respectively. A *caturaśra* pattern is made up of four *kalā* units of time and a *tryaśra* of three. The even or odd number of *kalā-s*, viz. 4 and 3, thus determines their nature respectively. *Caturaśra* is therefore symbolically called *yugma* 'even' and *tryaśra*, *ayugma* or *oja* 'odd/uneven'. As prototypes of quadruple (*caturaśra*) and triple measures (*tryaśra*), they may be compared with patterns, such as, for example, four-four and three-four time in Western music.

---

[559] NŚ (GOS) 31, 367cd *evam etad budhair jñeyaṃ gānaṃ tālapramāṇataḥ*. Note the reading in KSS (v. 525cd) is completely different.

[560] Amarakoṣa 1, 7, 9c *tālaḥ kālakriyāmānam*.

[561] Even though grouping is generally conceived as a major element of rhythmic shape, and thereby a focal element in the perception of rhythm, it is evidently also a feature of metre. "To overlook metric grouping is to ignore a critical feature of musical time." See further Epstein, pp. 31 f.

[562] These terms are also used in the rest of the NŚ to distinguish main types or categories. Cf. three types of playhouse (*maṇḍapa/nāṭyaveśma*): *caturaśra*, *tryaśra* and *vikṛṣṭa* (protracted > oblong) (KSS 2, 8); three types of theatric preliminaries (*pūrvaraṅga*): *caturaśra*, *tryaśra* and *citra* (variegated/mixed) (GOS 5, 148-9; KSS 5, 158-60; 163) and two types of *catuṣpadā* compositions:

Apart from *miśra*, the alleged third type of time, our text even mentions a fourth type, namely *saṃkīrṇa* (vv. 44-6), *i.e.* that of 'miscellaneous' patterns. However, its authenticity in the NŚ is most doubtful. See further § 4.3.

6.3.2 *Yathākṣara*, the syllabic form of *tāla* patterns

The five standard measures are first described according to their so-called syllabic form (*yathākṣara*). That means that the structures are described as they occur in their original and unmodified form. Afterwards they are again described, but then in their modified forms, that means when they are subjected to structural expansion (see further section 6.6).

The *yathākṣara* or syllabic form of a given *tāla* indicates the structure that is determined by the characteristic arrangement of its constituent units of time. We have observed above that the two fundamental *tāla* types (*i.e. caturaśra* and *tryaśra*) were represented by *cañcatpuṭa* and *cācapuṭa* respectively. These are mnemonics, which, just like the names of numerous metres in Sanskrit prosody, help in memorizing or remembering the metrical structure of a given pattern.[563] However, unlike the names of prosodic metres, here the mnemonical formulas such as *cañcatpuṭa*, *cācapuṭa*, etc., reflect the syllabic structure of the entire *tāla* pattern.[564]

Bharata describes these patterns by means of three syllabic units, namely *laghu* (short), *guru* (long) and *pluta* (protracted). They have the relatively fixed metrical value of 1, 2 and 3 morae (*mātrā*) respectively, and accordingly relate to one another as 1 : 2 : 3. In accordance with post-Abhinavagupta tradition, we also adopt the convenient set of common abbreviations, namely 'I' for *laghu*, 'S' for *guru* and 'Ś' for *pluta*, to represents these syllabic instants. In this way the *yathākṣara* form of *cañcatpuṭa* is described as *guru-guru-laghu-pluta* (SSIŚ), *cācapuṭa* as *guru-laghu-laghu-guru* (SIIS), *ṣaṭpitāputraka* as *pluta-laghu-guru-guru-laghu-pluta* (ŚISSIŚ), *sampakveṣṭaka as pluta-guru-guru-guru-pluta* (ŚSSSŚ) and *udghaṭṭa* as *guru-guru-guru* (SSS).

---

caturaśra and *tryaśra* (KSS 31, 441cd); etc. In connection with dance, *caturaśra* is further used to refer to a particular 'dance-hand' (*nṛttahasta*) (KSS 9, 11), a dance-movement ([*vaiṣṇava sthāna*] *cārī*) (KSS 11, 92ab; 13, 4ab), and *tryaśrā* to a particular movement with the neck (*grīvākarma*) (KSS 8, 167ab), etc.

[563] This mnemonic method is indicated by the word *yathākṣara* itself, but also by certain phrases in the text, such as, e.g., *guru-laghv-akṣarānvita* (KM 31, 9 d), *akṣarāṇāṃ niveśa* (KM 10 c), *yathokta* [...] *svasaṃjñāgurulāghava* (KSS 31, 13 cd), etc.

[564] For example, the names *praharaṇakalikā* (III, III, S) and *mandākrāntā* (SSS, S) only indicate the initial part of the *pāda* structure. For the structure of the entire *pāda*, cf. Apte's *Skt. - Eng. Dict*, App. I, pp. 1038 f.

Table 23 *Yathākṣara* structures

Tāla type	mnemonics	syllables	syllabic structure	syllabic instants	
1 - caturaśra	cañcatpuṭa	ca-ñca-tpu-ṭa	S S I Ś	8 mātrā-s	= 4 kalā-s
2 - tryaśra	cācapuṭa	cā-ca-pu-ṭa	S I I S	6 mātrā-s	= 3 kalā-s
3 - miśra	- ṣaṭpitāputraka	ṣa-ṭpi-tā-pu-tra-ka	Ś I S S I Ś	12 mātrā-s	= 6 kalā-s
	- sampakveṣṭaka	sa-mpa-kve-ṣṭā-ka	Ś S S S Ś	12 mātrā-s	= 6 kalā-s
	- udghaṭṭa	u-dgha-ṭṭa	S S S	6 mātrā-s	= 3 kalā-s

6.3.3 *Pluta*

A fascinating aspect in most of these patterns is the predilection for the *pluta* or protracted syllable of three *mātrā-s*, *i.e.* the sum total of a *laghu* and a *guru* value. A *pluta* occurs at the end of *cañcatpuṭa*, as well as at the beginning and end of *ṣaṭpitāputraka* and *Sampakveṣṭaka*. Note that even though the metrical value of these syllables is that of a *guru* (two morae) it has by convention been elevated to that of *pluta* (three morae).

Not much can be definitely said about the origin of *pluta* in *tāla*. To the best of my knowledge, the *pluta* is not explicitly reckoned with in metrical sources,[565] unless one would like to consider the linkage of a *laghu* and a *guru*, or *vice versa*, at the end of numerous metres as virtually forming *pluta-s*,[566] but such a practice is not observed in, for example, Piṅgala's *Chandaḥ Śāstram*. Most significantly, even Bharata in his chapters on metres,[567] reckons exclusively with *laghu* and *guru*, without any reference to *pluta*.[568]

Since prosody has to be excluded as a possible source,[569] two other areas remain which may be the origin of this notion, namely grammar and Vedic chant. Pāṇini knew *pluta* and he also seems to have related the Vedic accents to particular durations of articulation. Before defining them as 'raised' (*udātta*), 'unraised' (*anudātta*) and 'sounded' (*svarita*)[570] he lays down the rule that "the time-measures [required for articulating] the vowels ['*u*',] '*ū*' [and '*ū3*'], are the *hrasva*, *dīrgha* and *pluta* (syllables respectively).[571] It thus seems that in ancient times the melodic accents depended not only on the qualitative aspect of pitch, but also on the quantitative duration of time.[572]

Aside from the Prātiśākhya-s (cf. Ṛk Prāt. 1, 16), the Śikṣā treatises on phonetics also deal with this subject. The Mātrālakṣaṇa, for example, is completely dedicated to it.[573] A short syllable (*hrasva*) is said to have the measure of one mora and a long syllable (*dīrgha*) of two morae, but the elongated (*pluta*) as well as the augmented (*vṛddha*) syllables are said to have the measure of three morae.[574] The interpretation of the latter two syllables obviously depends on how the composite (or additive) value of three morae is analysed, because the *pluta* is explained as 'a *hrasva* plus two *mātrā-s*', and a *vṛddha* as 'a *dīrgha* plus one *mātrā*'.[575] Notably, a syllable divorced from accentuation also has three *mātrā-s* on every *svara*.[576] Further research into this area may help in determining the early sources that provided one of the characteristic building units for the formation of *tāla* patterns.

---

[565] At least, the Gaṇa system does not consider *pluta* syllables. Cf. Piṅgala's *Chandaḥ Śāstram* 1, 1-14.

[566] Cf. the definitions of, e.g., *gajagati*, *māṇavaka*, *bhramaravilasita*, *rathoddhatā*, etc. Cf. Apte's *Skt. - Eng. Dict*, App. I, pp. 1036 f.

[567] Meters are treated in two successive chapters of the NŚ, *viz*. KM/GOS 14-5 or KSS 15-6.

[568] Cf. KSS 15, 85 *gurulaghvakṣarakṛtaḥ sarvavṛtteṣu nityaśaḥ*.

[569] This does not beg the question of whether prosody and *tāla* are related. In our Introduction we have already indicated that because of its magnitude this issue cannot be addressed here.

[570] Aṣṭādhyāyī 1, 2, 29-32.

[571] Aṣṭādhyāyī 1, 2, 27 *ūkālo 'j jhrasvadīrghaplutaḥ*.

[572] Cf. A. A. Macdonell 1916, 448.

[573] The first *khaṇḍikā* begins as follows: *athāto hrasvadīrghaplutamātrāṇy akṣarāṇi vyākhyāsyāmaḥ*

It is anyway clear that even though the notion of *pluta* is quite old, it was not adopted in prosody, whereas *tāla* assigned it a prominent place in the formation of its basic patterns. In the later *tāla* tradition it is still retained, but its importance appears to have diminished after smaller units had come to dominate the system. By splitting the existing set of conventional time-units (*i.e. laghu*, *guru* and *pluta*), fractional units, such as *druta* (half a *laghu*), etc., were introduced. On the other hand, more fractions were allowed with the introduction of the notion of *virāma* - marked as a short slash superscript on the existing symbols or abbreviations, indicating an increase with half their value, as for example, *druta-virāma* (one and a half *druta*), *laghu-virāma* (one and a half *laghu*), and notably *guru-virāma* (one and a half *guru*) that is the same as *pluta*.[577] The *virāma* mark is comparable to the dot of addition used in dotted notes, as commonly applied in Western music notation. From this point of view, all *tāla* measures that comprise *pluta* could be conceived as dotted metres or dotted rhythms.

6.3.4 The role of *pluta*

A glance at the syllabic structure of the *tāla* patterns in the table above shows that the ancient masters had a strong predilection for palindrome or symmetrical forms. Except for *cañcatpuṭa* (SSIŚ), all patterns make perfect palindromes. To understand these structures, one should study their rhythmic effect and the role *pluta* plays in them. In any case it is clear that when all three basic units are employed, *pluta* offers strong contrast to the pattern, especially in opposition to *laghu*, whereas the *guru* syllables just provide a neutral matrix. But the situation is different in *cācapuṭa* (SIIS) and *udghaṭṭa* (SSS) where *pluta* plays no role. P. L. Sharma explains that the function of *pluta* seems to be either to balance the *laghu*, *i.e.* to extend the time-value of two *guru-s* to three, as in *cañcatpuṭa* (SSIŚ) and *ṣaṭpitāputraka* (ŚISSIŚ), where a *pluta* is preceded or succeeded by a *laghu*, or to extend the value of a *guru* in order to fill the total time-value of the span of a particular *tāla*, as in *sampakveṣṭaka* (ŚSSSŚ) where five *guru-s* constituting the name have been extended to six *guru-s* by changing two *guru-s* to *pluta-s*, one at the beginning and one at the end. In both cases *pluta* breaks the monotony of the *tāla* structure.[578] As to their special effects, Sharma further adds that in *cañcatpuṭa* (SSIŚ) and *ṣaṭpitāputraka* (ŚISSIŚ), *pluta* lends beauty to the structure, and this is perhaps the reason why these two *tāla-s* have been profusely used in the *gītaka-s* (compositions). *Pluta* juxtaposed to *guru* as in *sampakveṣṭaka* (ŚSSSŚ) is not as effective in making a structure beautiful or striking as it is when juxtaposed to *laghu*. *Tāla udghaṭṭa*

---

[574] Mātrālakṣaṇa 1, 3 *hrasvaṃ mātrā* | *dīrghaṃ dve* | *plutaṃ vṛddhaṃ ceti trimātram abhidhīyate*

[575] Ibid. 1, 4 *hrasvaṃ dvimātrāsaṃyuktam plutam āhur manīṣiṇaḥ* | *dīrghaṃ tu mātrāsaṃyogād vṛddham ity abhidhīyate* || On this specific mode of forming the *pluta* or *pluti*, see also Klaus Strunk, "Typische Merkmale von Fragesätzen und die altindische 'Pluti'", Bayerische Ak. der Wissenschaften, Phil.-Hist. Klasse. Heft 8, München 1983, 88.

[576] Ibid. 1, 16 *visvaram akṣaraṃ svare svare trimātraṃ bhavati*. Translation adapted from Wayne Howard 1988, 16.

[577] Cf. SR 5, 255 ff.

[578] P. L. Sharma 1987, 144.

(SSS) is composed of three *guru-s* only, and hence is the least interesting. Further, it is never used independently, but always in a compounded form. *Udghaṭṭa* ('opening'), in conformity to its literal meaning, is perhaps indeed not a real *tāla*, but just a catchy opening pattern added to longer suites.

6.3.5 Two fundamental measures: *cañcatpuṭa* and *cācapuṭa*

In the preceding paragraphs *cañcatpuṭa* and *cācapuṭa* have been mentioned as epitomes of quadruple (*caturaśra*) and triple time (*tryaśra*) respectively. They represent two fundamental, but virtually opposite types, the nature of which is indicated by their typical span of time (*kalā*): *cañcatpuṭa* by four *kalā-s* and *cācapuṭa* by three.[579] The only point they have in common is perhaps the fact that both are tetra-syllabic patterns and that they are accompanied by common sets of beats.

Bharata prescribes all three beat-combinations, that is Sannipātādi, etc. (§ 4.4), to be applied to the two principal *tāla-s*: *cañcatpuṭa* and *cācapuṭa*.[580]

Table 24 The three beat-combinations as applied in the two principle *tāla-s*.

	Mnemonic	*cañ*	*cat*	*pu*	*ṭa*	*cā*	*ca*	*pu*	*ṭa*
	Syllabic instant	S	S	I	Ś	S	I	I	S
1	**Sannipātādi**	*saṃ*	*śa*	*tā*	*śa*	*saṃ*	*śa*	*tā*	*śa*
2	**Śamyādi**	*śa*	*tā*	*śa*	*tā*	*śa*	*tā*	*śa*	*tā*
3	**Tālādi**	*tā*	*śa*	*tā*	*śa*	*tā*	*śa*	*tā*	*śa*

However, this parallel application was not fully accepted by tradition. Dattila, for example, sanctions Sannipātādi alone as the common combination of beats to be applied to both *tāla-s*, and restricts the application of Śamyādi and Tālādi (the remaining two optional combinations) exclusively to *cañcatpuṭa*.[581] As reported by Abhinavagupta, this view appears to have been supported by ancient masters such as Viśākhila and others.[582] Śārṅgadeva too appears to dissociate himself from Bharata's view, by ironically referring to him as having accepted Śamyādi and Tālādi even in *cācapuṭa*.[583] The reason for this dissension is not clear, but it reflects a difference of opinion on a fundamental issue between younger and older sections of the same tradition. As argued above (see § 4.5), the Sannipātādi combination of beats was considered stronger, and therefore superior to the other two. I further explained its popularity due to its utility in generating the sensation of cyclicity in a musical performance. We may safely assume that in post-Bharata times this characteristic of Sannipātādi was fully recognised, cherished and developed. Against this musico-historical background it is not surprising that Śārṅgadeva could hardly suppress his disdain for Bharata's consent to apply the dull and static patterns of Śamyādi and Tālādi even in *cācapuṭa* - one of the most, if not the most popular *tāla* of ancient times.

---

[579] We shall see further on that these numbers are relative, because in the higher states of expansions the span of time comprises multiplications of four and three *kalā-s* respectively.

[580] This rule does not exclude their application in the other *tāla-s* that have been derived from the principal *tāla-s*, as attested by the description in the text.

[581] Datt. 126-7ab:

sannipātaś ca śamyā ca tālaḥ śamyā tathaiva ca |
eṣa pātavidhir jñeyo yugme cāyugma eva ca ||
śamyātā [lau ca] yugme dvis tālaḥ śamyam athāpi vā |

[582] A.Bhā. on NŚ 31, 15, p. 157. ll. 10-3 *evaṃ bhedatrayasambhavena cācapuṭasyetareṇa sāmyam utpādya viśeṣaṃ darśayati* | *sannipātādivikṣepair dvikalacatuṣkalasiddhiḥ* | *tathā ''cāryaviśākhilādibhiḥ sa evāsya bhedo darśitaḥ* | *eka ojaḥ prathamavāro dvividhakṛto yugmeti yad uktaṃ cañcatpuṭacācapuṭayor bhedāntaraprasūtitvaṃ darśayati*. See further Lath 1988, 139.

[583] SR 5, 29 ab *anyad bhedadvayaṃ cācapuṭe 'py asti muner matam* | *śa-tā-śa-tā; tā-śa-tā-śa ity ekakalacācapuṭakalāvidhiḥ*. According to Siṃhabhūpāla, Śārṅgadeva accepted Śamyādi and Tālādi on the authority of Bharata (*muner matam iti munigrahaṇaṃ praśaṃśārtham* | *na tu svamatam, ity anyathākhyāpanārtham*). Ghosh, obviously following Siṃhabhūpāla, also misinterprets the verse (see Transl. II, p. 56 n. 1 on v. 18).

6.3.6 The formation of three other measures: *pañcapāṇi*, *saṃpakveṣṭaka* and *udghaṭṭa*

After describing the species of the two most prominent types, Bharata describes three other varieties of triple time (*tryaśra tāla*). Aside from *cācapuṭa*, the proto-typical pattern of triple time, the NŚ describes three other species of this type, namely *pañcapāṇi* ('having five hands') or *ṣaṭpitāputraka* ('having sons from six fathers') (vv. 19-22ab), *sampakveṣṭaka* ('having thoroughly baked bricks'[584]) (22cd-3) and *udghaṭṭa* ('having a [special] opening') (v. 24). While the literal meaning of the first two of these words remains a mystery, that of the third pattern makes good sense because it consistently occurs as an 'opening' part of some larger structures (or suites). However, the prime value of these names, as well as that of *cañcatpuṭa* and *cācapuṭa*, lies obviously in their utility as mnemonics, because the syllables occurring in them indicate the structure of the respective *tāla* they represent.

In comparison with *cañcatpuṭa*, *cācapuṭa* and *pañcapāṇi*, the remaining two structures: *saṃpakveṣṭaka* (ŚSSSŚ) and *udghaṭṭa* (SSS) are scarcely used *tāla-s*, whereas the frequency of *ṣaṃpakveṣṭaka* is far lower than that of *udghaṭṭa*; the former occurs only in the *pūrvaraṅga* part known as *parighaṭṭanā*,[585] whereas the latter is found as the opening part of some composite limbs in songs such as the *vardhamāna*, *ullopyaka*, *oveṇaka* and *pāṇikā-s*.

In the rest of the paragraph I will show that as members of the *tryaśra* type, *pañcapāṇi*, *ṣaṃpakveṣṭaka* and *udghaṭṭa* are directly derived from the *cācapuṭa* archetype by way of 'blending' or 'coalescing' certain syllables. However, Bharata's explanation of these derivations is ambiguous and liable for misinterpretation (see v. 19). To support my interpretation I shall derive support from Dattila's ingenious explanation of *ṣaṭpitāputraka*. Finally I will argue that the variety called *udghaṭṭa* could not have been a real *tāla*, but only a special syncopated opening phrase prefixed to long suites.

Pañcapāṇi

The most commonly used variety of triple time is *pañcapāṇi* ('having five hands') (ŚISSIŚ); more often, it is called *ṣaṭpitāputraka* ('having sons from six fathers')[586] *i.e.* after its mnemonic, but sometimes also *uttara* ('the best').[587] The latter designation seems to denote its popularity, because it is used more frequently than the other patterns. Nevertheless, both designations are confusing because of the mention of the numbers 'five' and 'six' in the respective mnemonics. According to Abhinavagupta the word *ṣaṭpitāputraka* is used to indicate the six beats that accompany the same number of syllables. He therefore suggests reading only a nominal designation (and not a numerical one) into it, that conveys neither a sophisticated nor a literal meaning.[588]

---

[584] The word *iṣṭakā* 'brick' apparently lies at the basis of this word, as recognisable in the readings of KM/GOS and K Mss. (see apparatus on 22cd). It is the KSS alone that lengthens the penultimate vowel, obviously due to the requirement that all five syllables of the *sampakveṣṭaka* structure should be long. The alleged *pluta* value of the first and final syllables is also due to convention.

[585] Cf. A.Bhā. on NŚ 29, 108. In later times, it is occasionally used in the *prabandha* known as *pañcatāleśvara*, where, as a matter of fact, all five *mārga tāla-s* were employed (SR 4, 260-4). See also Chaudhary p. 258 and Ramanathan p. 398.

[586] Or 'having six fathers and sons'.

[587] Cf. NŚ (KSS) 31, 73ab; 499cd, Datt. 127cd and SR 5, 23.

Pañcapāṇi, the most important variety of *tryaśra tāla*, has been described first and almost analogously to the two preceding *tāla-s*, namely (1) by way of a mnemonic, *i.e.* *ṣaṭpitāputraka* that indicates its syllabic structure, and (2) by means of a set of accompanying beats. Notably, it is described by means of a formulaic phrase (*i.e. śamyātālapraveśena*) that indicates the way the beat-structure of *ṣaṭpitāputraka* should be derived, namely "by admitting (*praveśena*) [two more beats, i.e.] *śamyā* and *tāla*, another (variety of) *tryaśra* (*tāla*) is prescribed." (v. 19 ab *śamyātālapraveśena tryaśro'nyo'pi vidhīyate*)[589]

This formula presupposes a pre-existent structure to which *śamyā* and *tāla* have to be added so as to produce the *pañcapāṇi* structure. Since the latter is hexa-syllabic, spelled out: *sannipāta-tāla-śamyā-tāla-śamyā-tāla*, it is evident that the additional pair of *śamyā* and *tāla* was added to a tetra-syllabic structure with the accompanying Sannipātādi combination of beats (*i.e. saṃ-tā-śa-tā*). The only *tryaśra* structure that matches, is *cācapuṭa tāla*. Thus Bharata obviously meant that the structure of *ṣaṭpitāputraka* could be reconstructed by adding (*praveśena*) *śamyā* and *tāla* (to the Sannipātādi beat-structure of *cācapuṭa*).[590]

This derivation not only clarifies the cheironomic derivation of *ṣaṭpitāputraka*, but also throws light on the nature of the so-called *miśra* type of *tāla*. *Ṣaṭpitāputraka*, *Sampakveṣṭaka* and *udghaṭṭa*, which are reckoned as members of this type, in fact, constitute *tryaśra tāla*, or a sub-class, because all three represent ternary organisation. A characteristic feature of these structures is that their derivation appears to be based on a cognate *tāla* that is re-structured on the principles of internal reorganisation, *i.e.* by addition or substraction of certain beats, while the ternary nature is consistently retained.

The method for deriving *ṣaṭpitāputraka* from *cācapuṭa*, as described above, is indirectly underscored by Dattila. Even though he too relates the type and structure of *ṣaṭpitāputraka* directly to *cācapuṭa*,[591] he derives the former in a different way from the latter. He explains[592] that when two *cācapuṭa* patterns are juxtaposed, and "the second and penultimate (syllables) [of the suite] are joined with the first and last (syllables) respectively, then this [new structure] should be known as *ṣaṭpitāputraka*." That means that the *laghu* value of the second and seventh syllables is joined with that of the *guru* on the first and eighth syllables respectively.[593] This derivation can be illustrated best by means of the following scheme:

---

[588] A.Bhā. on NŚ 31, 18-20 *ṣaṭpitāputrakety akṣareṣu^{1} yā saṃkhyā kriyata ṣaṭ pāta iti yāvat* | *udāhṛta iti* | *saṃjñāmātram adhyeyam^{2}*| *^{3}na tv atra prapañcārtho nāpi cānvayārtha iti.*
[*^{1}akṣare* GOS *akṣareṣu* GOML ms. *^{2}a(tra)dhyetya(ya)m* GOS *adhyedam* GOML ms. *^{3}na tv atra prapañcārtho nāpi nā(cā)nva(yā)rtha iti* GOS *^{3}nanv atra vañcano 'rtho nāpi cāpy artha iti* GOML ms.].

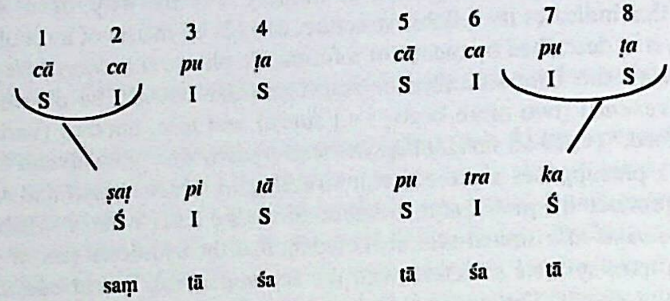
[589] For a discussion of other possible, but unlikely interpretations, see my comments on vv. 19-24.

[590] I derive support from a similar compound *dviśamyātālayogena* (KSS 31, 383c) that is used in a similar way. After a description of the *sampiṣṭaka* component of the seven-limbed *oveṇaka gītaka* (vv. 381cd-3ab), follows a 'formula' for deriving that of the twelve-limbed *oveṇaka*, i.e. 'by adding two beats, namely *śamyā* and *tāla*' to the former (383cd *dviśamyātālayogena dvādaśāṅge 'pi ceṣyate*). In other words, the *sampiṣṭaka* pattern of ten *kalā-s* (with the beat-sequence *ni-śa-śa-tā-tā-śa-tā-śa-tā-saṃ*) served as the basis *kalā-s* for that of twelve *kalā-s* (with the beat-sequence *ni-śa-śa-śa-tā-tā-tā-śa-tā-śa-tā-saṃ*). The latter series has two additional beats over the former one, namely a *śamyā* and a *tāla*; this is exactly what is indicated above by our formula.

[591] Dattila, who in this respect seems to follow master Kohala, an earlier authority, also agrees with Bharata that *ṣaṭpitāputraka* has its origin in the uneven rhythm (*ayugmottha*) and that it has *pluta-s* at the beginning and the end, that a *sannipāta* and a *tāla* [should be placed] at respectively its initial and final (syllables), and between them two times *tāla-śamyā*. Text cited in following note.

[592] See Datt.127 cd-30a:
uttaraḥ pañcapāṇyākhyaḥ ṣaṭpi(tā)putrakākṣaraḥ ||

Table 25 Derivation of *ṣaṭpitāputraka*



To obtain the desired symmetric and hexasyllabic structure of *ṣaṭpitāputraka* (ŚISSIŚ), Dattila (following Kohala,) first juxtaposes two *cācapuṭa* palindromes (SIIS) that result in an octo-syllabic and hyperpalindromic structure of six *kalā-s* (SIIS SIIS). In order to eliminate the two redundant syllables he combines the initial two (SI) and final two syllables (IS) into single syllables (Ś). In other words, two separate syllables were coalesced into single, but longer syllables with the combined value of three *mātrā-s*, because a *guru* and a *laghu* were joined together. In this way not only the palindromic nature of the original structure was retained, but also the ternary value of *ṣaṭpitāputraka* (of six *kalā-s*).

While Bharata's method (v. 19) mainly explains the cheironomic structure of *ṣaṭpitāputraka*, Dattila's method convincingly accounts for most of its idiosyncrasies. First, it clearly demonstrates that *ṣaṭpitāputraka* derives from the triple or 'uneven' type of *tāla* (*ayugmottha*), because it is directly related to its archetype *cācapuṭa*, though admittedly in a duple juxtaposed form. Second, the occurrence of *pluta-s* at the beginning and end of *ṣaṭpitāputraka* is ingeniously accounted for by the coalescence of two syllables at those places. Third, its perfect symmetry is explained by the juxtaposition of two symmetric *cācapuṭa* palindromes. And fourth, as indicated above, the alleged *miśra* nature of *ṣaṭpitāputraka* occurs from the internal reorganisation of syllabic instants of the original structure. This procedure only effects the number of syllables, but never the total value of the syllabic instants. The measure of the original sequence is retained, and along with that also its ternary nature. Against this background *ṣaṭpitāputraka*, *saṃpakveṣṭaka* and *udghaṭṭa* should

---

ayu(gmo)tthaḥ plutā(dy)antas tathā cāhātra kohalaḥ |
dvau tu cācapuṭau kṛtvā dvitīyopāntyake kramāt ||
ādyantayor niyujyainaṃ ṣaṭpitāputrakaṃ viduḥ |
sannipātaś ca tālaś ca tasyādyantau yathākramam ||
[d]vir madhye tālaśamye ca... |

[593] E. te Nijenhuis (1970, 342) interprets the passage as if the second and penultimate syllables (*dvitīyopāntyake*) of each *cācapuṭa* pattern (SIIS) were to coincide so that one of them was eliminated, resulting in the SIS + SIS structure that is not attested, at least not in the earliest period. As a matter of fact, E. te Nijenhuis (*ibid.*), and later also Lath (1988, 140 f.; 1988, 27), have overlooked the fact that the second and penultimate syllables were to be joined (*niyuj*) with the first and final last syllables respectively (*kramāt*), so that the *pluta-s* at the beginning and end of *ṣaṭpitāputraka* could be accounted for as a combination of a *guru* and a *laghu*.

be understood as genuine examples of *tryaśra tāla*, but Bharata's suggestion to consider them as *miśra tāla-s*, may perhaps only emphasise their derivative origin, namely through a process of compounding certain syllables.

It may thus be concluded that though Dattila's (= Kohala's) splendid method, as such, is not found in the NŚ, a different and less elaborate, but equally effective form is presented by the phrase *śamyātālapraveśena* (v. 19ab).

Saṃpakveṣṭaka

This measure is said to be another variety of *tryaśra tāla* (v. 22cd). Its syllabic structure (ŚSSSŚ) may perhaps also have been derived from the archetypal *cācapuṭa* in a similar way to that of *ṣaṭpitāputraka*, but with the additional step that the two *laghu* values in the latter should coalesce into a *guru*. The last step is also necessary for reducing one more syllable from *ṣaṭpitāputraka*. However, it seems more likely that *saṃpakveṣṭaka* has been derived directly from the cognate *ṣaṭpitāputraka*, through just such a single step as mentioned in the preceding line.

Even though Bharata first prescribes the Tālādi sequence of beats for *saṃpakveṣṭaka*, viz. *tā*, *śa*, *tā*, *śa*, *tā* (v. 22cd), a few verses further he seems to overrule himself by prescribing the Sannipātādi sequence (*i.e. saṃ*, *śa*, *tā*, *śa*, *tā* (v. 23cd). We may interpret this as an optional combination presumably preferred by tradition, because of the attested predilection for the *sannipāta* beat at the beginning of cheironomical sets (see further § 4.5).

Abhinavagupta and Śārṅgadeva evidently corroborate the first view, but explain it in a different way: the beats (*kalā*) in *saṃpakveṣṭaka* are derived from (those in) *ṣaṭpitāputraka* (ŚISSIŚ: *saṃ*, *tā*, *śa*, *tā*, *śa*, *tā*), without the (initial) *sannipāta*.[594]

Udghaṭṭa

The *udghaṭṭa tāla* is also described as a *tryaśra* variety (v. 24a). It comprises three syllables, which are all long (*sarvaguru*), so that the total value of *udghaṭṭa* amounts to three *kalā-s*. That means that it is closely related to *cācapuṭa tāla* (SIIS) and is most likely derived from it when the two middle short syllables coalesce into a long one (SSS).[595]

However, the most curious aspect of *udghaṭṭa tāla* (viz. *ni-śa-śa*) is that it evidently has a silent gesture in its syllabic form (*yathākṣara*). The first is a silent gesture (*niṣkrāma*), whereas the second and third are audible beats (*śamyā*), which, moreover, are of the same kind. In other words, this *tāla* is different from the other Gāndharva *tāla-s* in more than one respect, since none of them has a silent gesture in its *yathākṣara* form, or one and the same beat repeated twice; usually they have different alternating beats.[596]

The description of *udghaṭṭa* is certainly the most enigmatic of all the *tāla-s* described thus far. It is striking that it has been treated as a *tāla* while it does not share the general characteristics of the other measures. In fact, it is only a tri-syllabic opening phrase, sometimes used to create a special rhythmic effect in certain composite components.

---

[594] A.Bhā. on NŚ 31, 21 *pañcapāṇipadaṃ sannipātabhedeneti tāvatyā (tā) mātrābhidhāne asannipātaniyamo labdhaḥ*. SR 5, 37a-c *saṃpakveṣṭākasya kalāḥ ṣaṭpitāputrakoditāḥ | saṃnipātas tu nāstyatra*.

[595] Cf. Kalānidhi Vol. III, p. 26 l. 10 *udghaṭṭasya yoniḥ kāraṇaṃ cācapuṭa* |

[596] Though repetitions of beats sometimes occur in some of the formal compositions, e.g., the beat-structure of the syllabic *madraka*: śa-śā-tā-tā-śa-śā-tā-tā-śa-tā-śa-tā-śaṃ (KSS 31, 309cd-13). See also the *sampiṣṭaka* component mentioned above in our illustration of composite limbs (above n. 590) and the *āśrāvaṇā nirgīta* discussed above in the context of *pāṇi* (vv. 538cd-42).

This peculiar *tāla* is further characterised by its ambiguous nature. Its sequence of three heavy syllables represents the least attractive structure (SSS),[597] but on the other hand, the sequence of a silent gesture followed by two right-hand beats immediately one after the other (*ni-śa-śa*), is most interesting from a rhythmic point of view.[598] Because of the seemingly incomplete nature of *udghaṭṭa*, as well as the initial position it occupies in larger cheironomic suites, it is tempting to relate it to the notion of upbeat ('Auftakt'/'offbeat') in Western music. Since *udghaṭṭa* is usually prefixed to certain limbs (*aṅga*) of certain *gītaka-s*, its initial silent gesture (*niṣkrāma*) creates the sensation of a syncopated beat, and, followed by the repetition of the two *śamyā* beats, produces a powerful 'after-beat' effect (*atīta graha*).[599] Note that the similar effect in the *sampiṣṭaka* component (of the *oveṇaka*) is strengthened by additional repetitions of beats (e.g. *ni-śa-śa-śa-tā-tā-tā-śa-tā-śa-tā-saṃ*).

Table 26 Methods of deriving the so-called *miśra tāla-s*.

Derived Tryaśra Types	*Structure*	*Structural derivation*	*Cheironomic derivation*
Ṣaṭpitāputraka	aṃ tā śa tā śa tā Ś I S S I Ś	?	Bharata: Sannipātādi plus śa-tā
	Ś I S S I Ś	Dattila: juxtapose two *cācapuṭa* patterns: SIIS + SIIS, and then join the initial and final two sylls. into a *pluta* (Ś).	
	Ś I S S I Ś	- ŚI + SSIŚ (*cañcatpuṭa*)	Sannipātādi plus śa-tā
Sampakveṣṭaka	tā śa tā śa tā Ś S S S Ś	Śārṅgadeva: eliminate one syll. from *saṭpitāputraka* by joining the two *laghu-s* (I) to a *guru* (S).	Sannipātādi minus initial saṃ
Udghaṭṭa	ni śa śa S S S	Eliminate one syll. from *cācapuṭa* (SIIS) by joining the two *laghu-s* (I) to a *guru* (S).	?

---

[597] Moreover, its *dvikala* and *catuṣkala* states are in a way indistinguishable from that of *cācapuṭa*. Cf. SR 5, 38ab (plus commentaries) and Ramanathan 1999, 102.

[598] In contemporary music the Rūpaka tāla both in north as well as south Indian music begins with an empty gesture.

[599] Cf. the *yugma pravṛtta* component of *ullopyaka* (KSS 31, 357-8; Datt. 191ab; SR 5, 121); the *sampiṣṭaka* component in the *oveṇaka* song (GOS 31, 288-90; SR 5, 162; Lath 1988, 185); the *upohana* of *sunandā* in *vardhamāna* (SR 5, 207); the *śirṣāka* in *pāṇikā* (Datt. 235ab; SR 5, 222d); etc. Cf. A.Bhā. Vol. IV, p. 162. ll. 15 f. [...] *gurutrayarūpe ca ghaṭṭanaṃ prakṛtirūpatvāt pūrvabhāvīty udghaṭṭamānatvād udghaṭṭanam vādyam.*

6.4 *Tāla* types

6.4.1 Introduction

In the preceding section I indicated that apart from triple (*tryaśra*) and quadruple time (*caturaśra*), the NŚ does not seem to really reckon with other *tāla* types, even though two more types at two dubious locations in the text have been mentioned. First *miśra tāla* appears to be introduced as a third division of time (vv. 12cd-4ab). However, I indicated that its authenticity as a type in the NŚ, is doubtful and that likewise the mention of so-called 'miscellaneous' patterns (*saṃkīrṇa*) further on in the text (vv. 44-6), does not prove the existence or the recognition of a fourth type in a work as early as the NŚ. Nevertheless, the ambiguous mention of *miśra* and *saṃkīrṇa tāla*, has evidently forced Abhinavagupta, Śārṅgadeva and others, to explain them as *tāla* types already taught by Bharata, whereas, in fact, they are actually prevalent only from the early medieval period onwards.

The *tāla-s* that have been alluded to as *miśra* by the NŚ, appear, in fact, to be nothing more than variations on triple time (*tryaśra tāla*), whereas the 'miscellaneous' *tāla-s* appear to constitute a genuine class of 'additive' patterns that better deserve to be called 'hybrid' or *miśra*. The problem that clearly presents itself is whether or not *miśra* and *saṃkīrṇa* in the NŚ represent different categories, if any at all, and subsequently, whether it recognises only two, three or perhaps four classes or types of time-patterns. In the following paragraphs I clarify this matter by analyzing the pertinent passages from the *tāla* chapter and then comparing them with parallel passages from other sources. In this regard, attention is drawn to the development of rhythmic types in the history of Indian music.

6.4.2 The problem of *miśra tāla* in the Nāṭyaśāstra

Immediately after describing the principles of *caturaśra* and *tryaśra tāla* as well as their species, a passage occurs where *ṣaṭpitāputraka* is presented as *miśra tāla* and suggested to have originated from the actual mixing or compounding (*miśrabhāva, samāsayoga*) of triple and quadruple patterns (*i.e.* vv. 12cd-14ab). Even though the sequence of presenting matters seems logical, the acceptance of *miśra* as a third and therefore independent variety of *tāla* types remains problematic because of the uncertainties surrounding the meaning and nature of *miśra tāla* and its examples. It further remains doubtful whether or not it just represents a subdivision of *tryaśra tāla*.

The interpretation of this passage is seriously impeded by the obscurity about its location in the text. In the KSS version it occurs immediately after the description of the syllabic structures of *caturaśra* and *tryaśra*, but in the KM/GOS it is omitted at that place, while the first two lines occur further on in a different setting.[600] These incompatible versions, along with another confusing passage on *tāla* types (cf. KSS 31, 44-6), have given rise to further speculations on the origin of the *miśra* and other types of *tāla-s*.[601] The vague nature of the references to types other than *caturaśra* and *tryaśra*, namely to *miśra tāla* in particular, indicates that the matter was not yet decided when the final editing of the NŚ took place, and that the issue was only settled afterwards, by knowledgeable scribes. Before examining the exact relationship between *miśra* and *ṣaṭpitāputraka*, we may first consider the use of the word *miśra* in the NŚ.

---

[600] Cf. KM 31, 16cd - 8 ab and GOS 31, 16-7. Discussion follows below.

[601] Scholars have cited and interpreted these passages differently as suited their theories, especially in finding an authority for the *miśra*, *saṃkīrṇa* and *deśī tāla-s*. See for example, S. S. Paranjape, *Bhāratīya Saṃgīta kā Itihāsa*, (Varanasi 1985), p. 398. See further Rowell 1992, 209.

The exact nature of *miśra* is not clear, but from its common meaning one would expect it to relate to compounded structures, or sets, comprising two or more smaller patterns. What immediately comes to mind are a number of structural components (*aṅga*)[602] in Gāndharva compositions where triple and quadruple patterns (along with other components) are compounded into larger patterns, such as, for example, the *caturaśraka* component of the *oveṇaka* song (cf. GOS 31, 287)[603] that is composed of an *udghaṭṭa* pattern + a *cañcatpuṭa* pattern + an 'extra' *sannipāta* beat:

Table 27 The composite *caturaśraka* component.

Kalā-s	1	2	3	4	5	6	7	8
Gestures	ni	śā	śa	tā	śa	tā	śa	Saṃ
Patterns	*udghaṭṭa*			*cañcatpuṭa*				'extra'

Another example is the syllabic form of the *kaniṣṭha āsārita* song (cf. GOS 31, 55-63) which also occurs as the *saṃharaṇa* component of the *prakarī* song (cf. GOS 31, 281ab). It consists of a *cañcatpuṭa* pattern + two *pañcapāṇi-s* patterns + an 'extra' beat:

Table 28 The composite *kaniṣṭha āsārita*.

Kalā-s	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Gestures	śa	tā	śa	tā	Saṃ	tā	śa	tā	śa	tā	Saṃ	tā	śa	tā	śa	tā	Saṃ
Patterns	*cañcatpuṭa*				*pañcapāṇi*						*pañcapāṇi*						'extra'

Even though these examples appear as genuine cases of mixing or compounding triple and quadruple patterns, they are never referred to or qualified as *miśra*. The *caturaśraka* component could anyway not be called *miśra* because its binary or quaternary nature prevents from making it an eligible 'mixed' pattern. The *kaniṣṭha āsārita*, on the other hand, seems to be a perfect example of a *miśra tāla*, because it falls outside the ternary or quaternary categories, but it too is never called *miśra*.

In the few instances of the *tāla* chapter where the word *miśra* occurs, it is used mostly in a conventional and literal meaning, namely that of a mixture of two different types of patterns,[604] *i.e.* a 'hybrid' type involving the mixing of patterns of the *caturaśra* and *tryaśra* types.[605] At least one *tāla* component that is explicitly qualified as 'mixed', namely the *miśra anta*,[606] indeed involves a mixture of *tāla* types. In the description of the *ullopyaka* song, for example, *miśra* refers to a particular kind of structural component (*aṅga*) called *anta*. *Anta* is a finale that is made up of three limbs (viz. *sthita*, *pravṛtta* and *mahājanika*) and performed in three different ways characterised by the homogeneity or heterogeneity of their limbs. In the first way (read: round) all three limbs were 'even' (*yugma*), but 'uneven' (*ayugma*) in the second, and 'mixed' (*miśra*) in the third. In the latter case *anta* could consist of one 'even' and two 'uneven' limbs, or *vice versa*. These examples clearly indicate that the *miśra* qualification referred to a hybrid group usually obtained by mixing *caturaśra* and *tryaśra* patterns.

---

[602] For an introduction to these components, see above, §. 2.8.1.

[603] This component is structurally identical to the *yugma pravṛtta* in *oveṇaka* as well in *ullopyaka* (KSS 31, 354-5ab; Datt. 189cd-90ab; 206ab; SR 5, 121ab).

[604] Compare the related terms such as *vikṛṣṭa* (protracted > oblong) and *citra* (variegated/mixed).

[605] Among the songs discussed in the *tāla* chapter, the word *miśra* is used only in the *ullopyaka gītaka*. One reference in the *oveṇaka gītaka* (v. 386) is difficult to explain. In the *catuṣpadā* section *miśra* seems to represent a genuine blend of 'even' and 'uneven' metres (KSS 31, 463 *khañjanatkuṭanābhyāṃ tu miśrabhāvo yadā bhavet | tryaśrā vā caturaśrā vā tadā̲ miśreva kīrtyate*). A final reference in the *pracchedakaḥ lāsyāṅga* (v. 506) is also unintelligible.

[606] *Anta* occurs in the *ullopyaka* (KSS 31, 351-63), *oveṇaka* (GOS 31, 207cd; Datt. 208cd; SR 5, 157ab) and *uttara* songs (GOS 31, 312; Datt. 219cd; SR 5, 177cd).

However, when we interpret the word *miśra* in relationship with *ṣaṭpitāputraka* (ŚISSIŚ), one could explain it as referring to the sum total of smaller patterns, e.g. of a bi-syllabic (ŚI) and a tetra-syllabic (SSIŚ) pattern. Note that the latter pattern happens to resemble the *cañcatpuṭa* pattern. In this case both patterns are quaternary or *caturaśra* patterns of four and eight morae respectively. This example suffices to show that the possibilities for analyzing *ṣaṭpitāputraka* as a compound made up of 'even' and 'odd' patterns, are very quickly exhausted, lest the bi-syllabic (ŚI) and a tetra-syllabic (SSIŚ) pattern are considered as constituting the *miśra* nature. As this seems most unlikely, there is virtually no evidence to prove that all three alleged *miśra tāla-s* (*i.e. ṣaṭpitāputraka, saṃpakveṣṭaka* and *udghaṭṭa*) derive from a combination of different *tāla* types. On the contrary, they are explicitly stated as *tryaśra* variants, which are obtained by rearranging the syllabic structure of the archetypal *cācapuṭa*, while the 'uneven' nature is retained. In this way they turn out to constitute only a sub-division or sub-class of the *tryaśra* type.

6.4.3 The post-Bharata *jāti* system of *tāla* types

In modern times, to start in reverse historical order, Indian music reckons with a five-limbed system of *tāla* types that hails from the medieval period. This so-called *jāti* system organizes the repertoire of metrical material according to arithmetical principles into five types: *tryaśra, caturaśra, miśra, khaṇḍa* and *saṃkīrṇa*. These terms, that indicate the characteristic number of *kalā-s* or *laghu-s* per measure,[607] are used as conventional tags for the numbers three, four, five, seven, and nine, respectively.[608]

Table 29 The *jāti* system

Rhythmic genera	*Meaning*	*Numerical tag*
tryaśra	triangular	3
caturaśra	quadrangular	4
miśra	mixed	5
khaṇḍa	split/decimal	7
saṃkīrṇa	blended[609]	9

---

[607] Comparable to the number of beats to a bar in Western music.

[608] Cf. the Nāṭyasarvasvadīpikā (3, 7, 31cd-35):
caturaśra-trayaśra-miśra-khaṇḍa-saṃkīrṇasaṃjñakāḥ |
jātayaḥ pañca tāleṣu yathocitavidhānataḥ ||
varṇapramāṇakāḥ sarve tāsv antarniyojitāḥ ||
caturlaghvakṣaroccārakālaḥ syāc caturaśrakaḥ |
trilaghvakṣarakālo yas tryaśra ity abhidhīyate ||
pañcabhir laghuvarṇais tu miśra ity ucyate budhaiḥ |
saptabhir laghuvarṇais tu khaṇḍa ity abhidhīyate ||
navabhir laghuvarṇais tu saṃkīrṇaḥ kathyate budhaiḥ |
evam uktaprakāreṇa deśītāle prayojayet ||

[609] Although *saṃkīrṇa* generally refers to a miscellaneous category of all other examples that do not fit into the main classes (i.e. *tryaśra* and *caturaśra*), I follow Rowell (1992, 209) in translating it as

Note that in the so-called *jāti-gati* system of Karnataka music the numbers for *miśra* and *khaṇḍa* types have been confused so that the former refers to seven and the latter to five.[610]

Younger musicological sources that deal with rhythm, and especially with the *tāla daśa prāṇa, i.e.* the ten vital powers of *tāla*, usually treat all five types under the heading of *jāti* (rhythmic genera). The oldest sources on the other hand, i.e., the NŚ and Datt., reckon only two, whereas the sources from the intermediate period work with three or four types. The progression from two to five types seems to indicate a historical development. In the following paragraphs I will show that the modern fivefold system reached completion only in the post-Saṃgītaratnākara period, because in the latter text only four types are recognised, whereas in some earlier sources (e.g. Mārkaṇḍeya Pūrāṇa) three, and in the NŚ evidently only two, at least in its oldest layers. Moreover, the last three types in particular are directly associated with the *deśī tāla-s, i.e. tāla-s* of the non-classical period. The Saṅgītaśiromaṇi (1428 C. E.), known for its historical observations, corroborates this view. As it accepts only three types, viz. *tryaśra, caturaśra* and *khaṇḍa*, it relates *tryaśra* and *caturaśra* to the traditional music (*mārga*), as represented by the NŚ and Datt., and *khaṇḍa*, which it considers a synonym for *miśra*, to the popular music (*deśī*), represented by the BṛD, and so on.[611] Modern musicological works claiming to be historical,[612] have thus far failed to recognise the development of rhythmic types as an important criterion for historical analysis.[613]

6.4.4 The textual evidence in the NŚ

From the unambiguous statement at the beginning of the *tāla* chapter (NŚ 31, 7cd-8ab *tālo dvividha eva hi* || *dvividasyāpi tālasya*) we may conclude that at least in the oldest layer of the chapter, only two *tāla* types were accepted: *caturaśra* and *tryaśra*.[614] But then unexpectedly, some verses further, another type called *miśra* is introduced, evidently a hybrid type as indicated by its name (vv. 12cd-13). The text then again sums up, but this time taking *tāla* to be of three types (v. 14cd *tālo 'yaṃ trividhaḥ*). This is an interesting internal contradiction that merits further investigation. The problem could easily be resolved when the allusion to a three-fold division is assumed to refer to the *tāla* measures treated thus far, viz. *cañcatpuṭa*, *cācapuṭa* and *ṣaṭpitāputraka*, and not to their types, namely *caturaśra*, *tryaśra* and *miśra*. In that case *ṣaṭpitāputraka* does not constitute a separate class, but a variety of *cācapuṭa* formed

---

meaning 'blended' because it is indeed used in this particular sense, as will become clear in the discussion below.

[610] Cf. P. Sambamurthy, *South Indian Music* III, 1994, 101-6. Rowell 1992, 209.

[611] Saṅgītaśiromaṇi 12, 3-4a *caturasras tathā tryasraḥ khaṇḍo miśrāparābhidhaḥ. iti syāt trividhas tālas. tatrādyau mārgam āśritau, antyo deśīgatas tatra.*

[612] E.g. S. S. Paranjape, *Bhāratīya Saṃgīta kā Itihāsa*, (Varanasi 1985), p. 398.

[613] A study of the transition from two types to three and more, could help understand the developments that led to the emergence of the *deśī* period, as well as issues such as why and how the small number of *mārga tāla-s* expanded so dramatically to those of the *deśī* system. Besides the general division of musical history into a *mārga* and a *deśī* period, a subdivision according to the stages of the rhythmic types may also serve as indicators of historical development, at least that of *tāla*.

[614] It should, however, be noted that by intentionally repeating the word 'twofold' so closely one after the other, and by using several emphatic particles (*eva hi* and *api*), the author may have wanted to clarify his position in a controversy on the number of *tāla* types, which might have been raging in his time.

by mixing, eliminating or multiplying certain syllabic instants.[615] (This point is illustrated in § 6.3.6). The problem that nevertheless remains is the suggestion that *miśra* indicates a distinct type, of which *ṣaṭpitāputraka* represents a species. The gravity of the problems involved force one to consider them with befitting caution, and eventually as an early interpolation, especially and skilfully inserted to account for newly emerging *tāla-s*. This suspicion applies equally to all passages in the NŚ that mention *miśra tāla*. Two such passages have been selected and discussed below along with their parallels in other sources. As they deal with *miśra tāla* I refer to them as fragments *m* 1 and *m* 2. Fragments *m* 1 has been preserved in two variant forms: *m* 1a and *m* 1b. The former represents the version of the KSS (vv.12cd-14ab) and the latter that of the KM (vv. 16cd-18ab) and GOS (vv. 16-17). Fragment *m* 2 (KSS vv. 44-46) occurs in all versions. Although *m* 1a has already been discussed above, it is reproduced here along with the other fragments for the sake of easy comparison. For the variant readings one is referred to the apparatus in their proper places.

***m* 1a** KSS (vv.12cd-14ab)
anayor miśrabhāvāc ca miśras tālaḥ prakīrtitaḥ
ṣaṭpitāputrakaś caiva pañcapāṇiḥ sa ceṣyate
yathoktair abhiniṣpannaḥ svasaṃjñāgurulāghavaiḥ
samāsayogāt tālo 'yaṃ trividhaḥ parikīrtitaḥ

***m* 1b** KM (vv. 16cd-18ab), GOS (vv. 16-17)
dviprakāraḥ punaś cāyaṃ niḥśabdaḥ śabdavāṃs athā
anayor̲ miśrabhāvāt tu miśras tālaḥ prakīrtitaḥ
śamyātālapraveśena tryaśro 'nyo 'pi vidhīyate
ṣaṭpitāputrakakṛtaḥ pañcapāṇir udāhṛtaḥ

***m* 2** KSS (vv. 44-46), KM (vv. 23cd-26ab), GOS (vv. 23-25)
vyudasya yugmam ojaṃ ca pañca tālā bhavanti hi
miśrā gītāṅgasaṃyuktā jñeyā hy udghaṭṭakādayaḥ
kalāḥ pañca tathā sapta punar nava ca kīrtitāḥ
daśa caikādaśaite ca saṅkīrṇāḥ samudāhṛtā
na hy eṣām upayogo 'sti saptarūpe dhruvāsu vā
pravṛttādiṣu kartavyā ete bhūyaḥ prayoktṛbhiḥ

TRANSLATION

[*m* 1a] However, when their [syllables] are 'mixed' [a third type emerges] called *miśra tāla*. **<13>** It is accepted as *pañcapāṇi* ('having five hands'), which is the same as *ṣaṭpitāputraka* ('having six fathers and sons'); it is [also] formed by the heaviness and lightness of syllables occurring in its name as they are pronounced. Taken together, *tāla* is [thus] said to be of three types.

[*m* 1b] Furthermore, this [system of *tāla* gestures] is of two kinds: 'silent' and 'audible', but when these two are mixed [arises] a *tāla* that is known as *miśra*. By adding [two more audible

---

[615] However, this does not seem to apply to other similar structures. For example, the basic structure of the *ullopyaka* song (SSIIS), is said to be equal to *caturaśra* (v. 345cd *caturaśraṃ samam*), because when the last two syllables are combined to a *pluta*, the syllabic structure becomes the same as that of *cañcatpuṭa*. Because of the slightly modified nature, one could expect that the *ullopyaka* should be referred to as *miśra*.

> gestures, i.e.,] *śamyā* and *tāla* [to that of *cācapuṭa tāla*][616] even another *tryaśra* [variant] is prescribed. It is formed according to [the syllables constituting its mnemonical name] *ṣaṭpitāputraka* and is called *pañcapāṇi*.
>
> [*m* 2] Apart from the 'even' and 'odd' [*tāla-s, i.e. caturaśra* and *tryaśra*] there are five [other] *tāla-s*. [Furthermore, the *tāla-s* such as] *udghaṭṭa*, etc., should be known as *miśra* and connected with limbs of song (*gītāṅga*). [The 5 *tāla-s* mentioned above] are known as [measures of] 5, 7, 9, 10 and 11 *kalā-s* (respectively) and are called *saṅkīrṇa* [*i.e.* 'mixed' *tāla-s*]. They are not applied [as limbs] in the sevenfold [*gītaka-s*] or in the *dhruvā-s*, [but] performers should [nevertheless] apply them abundantly [as sub-limbs] in [limbs such as] *pravṛtta*, etc.

Fragment ***m*** **1a** occurs (in KSS) immediately after a brief introduction of the two primary *tāla* types *caturaśra* and *tryaśra* (vv. 7-12ab). As a matter of fact, it presents a third type under the name *miśra tāla*, which allegedly arises from 'mixing' two original *tāla-s*. Then analogously to the two primary *tāla* types, the syllabic structure of a *miśra* epitome, viz. *pañcapāṇi*, is also illustrated by means of a mnemonic, *i.e. ṣaṭpitāputraka*.[617] The parallel presentation indicates that the author (read: interpolator) intended to add one more type to the original two and accordingly concludes that in total, *tāla* is threefold.

If the text had not have stated so explicitly in the beginning that there are only two types of *tāla-s*, it would be only natural to expect a third type as a result of mixing the original two. But this line of thinking is problematic from several points of view. First, the introduction of a third type, as well as the second resumé that there are three types of *tāla-s*, contradict the earlier statement that *tāla* has only two fundamental varieties (see vv. 7 f.). Second, by presenting *ṣaṭpitāputraka* (= *pañcapāṇi*) as an example or variant of *miśra tāla*, the text contradicts itself, because, excepting *m* 1a, *ṣaṭpitāputraka*, along with some other patterns, is usually considered a variant of *tryaśra tāla* (cf. KSS 31, 19).

The list of contradictions is further increased in ***m*** **1b**. This fragment that occurs only in the KM/GOS in this particular arrangement, in fact, combines three highly incompatible portions. The first line hails from a section dealing with two categories of gestures (see § 4.3 and above vv. 29cd ff.), the second from our section introducing a third *tāla* type (see above, ***m*** **1a**), and the final two from a passage that explains *ṣaṭpitāputraka* as a variety of *tryaśra tāla* (see below, vv. 19 ff.).

According to the first two lines *miśra tāla* does not derive from a combination of *caturaśra* and *tryaśra tāla* types (as suggested in *m* 1a), but from a combination of 'silent' and 'audible' gestures. The latter derivation is pointless because, even though 'silent' and 'audible' gestures are combined to form patterns such as, for example, the expanded states (*dvikala* and *catuṣkala*), they are never and nowhere referred to as '*miśra*'!

Fragment ***m*** **2** represents a step further in the development of *tāla* types; in particular it concerns two different types, *miśra* and *saṃkīrṇa*. Excluding the two principle types, (viz. *caturaśra* and *tryaśra*) the author first refers to five other measures [*i.e. saṃkīrṇa tāla-s*!] and then to the *miśra tāla-s* as *udghaṭṭa*, etc. After this brief differentiation, he returns to the *saṃkīrṇa tāla-s* to specify them.

---

[616] As to the specific problems posed by the compound *śamyātālapraveśena*, see discussion on *pañcapāṇi* in §§ 2.4 and 6.3.6.

[617] That is a palindromic and hexasyllabic structure of which the first and final syllables, though *guru-s*, are considered as *pluta-s*; the second and fifth are *laghu-s*; and the third and fourth *guru-s*.

However, when the first two lines are read together, the five *tāla-s* mentioned in the first line have to be considered as *miśra tāla-s*. This would mean that both *miśra* and *saṃkīrṇa* consist of five patterns. This numerical similarity as well as the ambiguous presentation leads one to raise the question whether both terms are synonyms,[618] or rather denote different categories. Morphologically they indeed approach one another quite closely,[619] but in the NŚ at least, the idea of identity should be ruled out because the *tāla-s* mentioned thus far as examples of *miśra* (*i.e. ṣaṭpitāputraka*, etc.,) do not match structurally with those listed here as *saṃkīrṇa*; the former represent patterns of 3 or 6 *kalā-s*, whereas those of the latter of 5, 7, 9, 10 and 11 *kalā-s*, *i.e.* a different and irregular series! On the other hand, it is difficult, if not impossible, to explain the reference to and existence of five *miśra tāla-s* in the NŚ, because only three patterns, if any at all, may be labelled as *miśra*, *i.e. ṣaṭpitāputraka*, *sampakveṣṭaka* and *udghaṭṭa*. Just like *ṣaṭpitāputraka* (v. 13/*m* 1a), *udghaṭṭa* too is directly referred to as *miśra* (v. 44/*m* 2), whereas *sampakveṣṭaka* is related to it only indirectly. Notably, these three patterns form a separate group and are as such described as 'varieties of the *tryaśra* type' (vv. 19; 22; 24). Since the latter are now said to constitute the *miśra* category of *tāla-s*, it follows that there cannot be five *miśra* patterns, but only three, or at the most four when even *cācapuṭa*, the archetypal *tryaśra* epitome is included. These considerations rule out the idea that *miśra* and *saṃkīrṇa* are different names of one and the same category or that the former is illustrated by measures of 5, 7, 9, 10 and 11 *kalā-s*.

We may thus conclude that a serious attempt was made to introduce a third type. However, a study of its alleged members mentioned in the NŚ indicates that it does not form a genuine type, but only a sub-division of the *tryaśra* type. On the other hand, a restriction to this type alone does not seem so logical, and justifies the assumption that the author also implied the inclusion of the varieties of the *caturaśra* type (see vv. 26-8). This would underscore the idea that *miśra* does not represent a real 'hybrid' type that involves actual mixing of the *caturaśra* and *tryaśra* types, but certain varieties of both types. They only involve an expansion of the syllabic structure, while retaining the 'even' or 'uneven' nature. That means that the varieties of *caturaśra* patterns have measures of 4, 8, 16 or higher *kalā-s* and those of the *tryaśra* of 3, 6, 12 or higher. See further § 6.5.3.2.

6.4.5 The development of *tāla* types: a reconstruction

From the testimonies of Abhinavagupta and Śārṅgadeva, it is evident that fragment *m* 2 already posed great interpretative problems in early times. Because of the impact of their view on later developments, I briefly discuss them in the following paragraphs.

6.4.5.1 Abhinavagupta's view

Abhinavagupta reports that some masters considered *udghaṭṭa tāla* as the subject-matter of the first two stanzas,[620] whereas he himself distinguished two separate sections with different themes: the first stanza is concerned in particular with *udghaṭṭa tāla*, as it seems to indicate the context and way it was applied,[621] and the remaining two with the *saṃkīrṇa tāla-s.*[622] He saw a perfect parallelism and relationship between the five *miśra-s* in the first stanza and five *saṃkīrṇa-s* in the other two. For him *miśra* seems to refer to five specific composite patterns, all of which begin with a trisyllabic *udghaṭṭa* measure (SSS) compounded to one of the five *saṃkīrṇa* measures.[623] It should be noted that Abhinavagupta interprets the phrase *udghaṭṭakādayaḥ* (44d) as a Bahuvrīhi compound meaning 'having an *udghaṭṭa* (pattern) as/in its beginning'. In this way the five *miśra-s* were conceived as 'composite' *tāla-s* having the respective structures of 3 + 5, 3 + 7, 3 + 9, 3 + 10 and 3 + 11 *kalā-s*. Although Abhinavagupta seems to imply that the *udghaṭṭa* and *saṃkīrṇa* measures were used exclusively in composition, he also tries to show, though not very convincingly, that the latter sometimes occurs as individual structures.[624] Explaining why Bharata did not assign proper names to these structures, Abhinavagupta suggests that, in fact, these were conferred by the numerical order of describing them (*lakṣaṇakrama*), *i.e.* by the specific number of *kalā-s* mentioned there, and especially by the connection with the generic appellation of *saṃkīrṇa*.[625]

---

[618] As probably did Śārṅgadeva. See further, discussion of SR 5, 39cd-42 below.

[619] Some later texts use the term *saṃkīrṇa* to designate *rāga-s*, etc. which have a hybrid origine. E.g., *eṣāṃ anyo 'nyasaṃsargāt rāgāṇāṃ bahuśo 'bhidhāḥ | tatra kecit tu saṃkīrṇāḥ kathyante śrutiśobhanāḥ* (Harināyaka Suri, quoted by Swami Prajnanananda 1965, 30).

[620] A.Bhā. on NŚ 31, 23-4 (p. 159. ll. 10-3) *udghaṭṭasaṃjñakasya vyudasya yugmam ojaś ceti, kalāḥ pañceti cāsya ślokadvayasya kecid artham āhuḥ.*

Similarly, the Datt. and SR too work primarily with two types (*i.e. tryaśra* and *caturaśra*),[626] and in line with the NŚ, occasionally refer to *miśra* in connection with the *ullopyaka* song, where it is also used in the literal sense of combining or mixing two types.[627] In this respect there is remarkable agreement between the NŚ, Datt. and SR, as all agree in using two fundamental *tāla* types, but when necessary they refer to a *miśra* variant so as to account for occasional blending of the two. However, the idea of a third and separate *tāla* type, does not seem to have taken shape yet, at least not in the NŚ and Datt., who still work with a twofold system of types. Since the A.Bhā. and SR reckon with three and more types, we may safely assume that at least *miśra* had developed into a distinct type in the BṛD, the partly extant source from the post-classical period. If this assumption is valid, then it is quite likely that the BṛD has been the original source responsible for contaminating the NŚ with *miśra* as a third type. In the SR the types have developed into a fourfold system with the emergence of *khaṇḍa*.[628]

---

[621] *Ibid*. p. 159. ll. 19 ff. *udghaṭṭaprayogasya kvety āśaṅkyāha vyudasya yugmam ity ādi* | *ihollopyako*; p. 160 ff. 16 f. *tena tatrāpy āyātam udghaṭṭakāditvam ityāśaṅkyāha vyudasyeti* | *yatra kathañcid api yugmaujabhedo nānupraviśati tatkalāpasaraṇe udghaṭṭamā(kā)ditvaṃ vaktavyam.* See also Ramanathan pp. 115-8.

[622] *Ibid*. p. 159. ll. 15 f. *saṃkīrṇā iti* [...] *uktaṃ ca na hy eṣām upayoga iti* [...] *tasmād anayoḥ ślokayor bhinna evārthaḥ.*

[623] See further Ramanathan pp. 115-8.

[624] Such as the five-*kalā upohana* of *viśālā kaṇḍikā*, the seven-*kalā upohana* of *sunandā kaṇḍikā*, etc. See A.Bhā. p. 161, ll. 3-6 (cf. p. 107, ll. 10-16). See further Ramanathan p. 117.

[625] A.Bhā. p. 161, ll. 7-9 *kalāḥ pañcety ādiḥ, samudāhṛtā iti* | *samyag lakṣaṇakrameṇodāhṛtāḥ* | *nanu noktāḥ* | *tac cātrāvasare kasmān noktā, ity āśaṅkyāha saṃkīrṇā iti.*

Compare the view of the masters (mentioned earlier by Abhinavagupta) who assert the opposite, apparently because they saw five *saṃkīrṇa-s* as numerical qualifications of the *udghaṭṭa* or *miśra tāla-s*, and that "naming the five *saṃkīrṇa-s* serves no practical purpose. Names are (like) whirpools, (especially) when they are not used anywhere. Moreover, the name *saṃkīrṇa* (itself) is not attested at all!. So it serves no practical purpose whatsoever." *Ibid*. p. 159. ll. 13-6 *pañcānām iti saṃjñākaraṇe prayojanaṃ na kiñcit* | *āvartinyo hi saṃjñāḥ* | *na cānayā kvāpi vyavahāraḥ* [...] *saṃkīrṇā iti cābhidhānaṃ na samarthitam eva* | *na kvacit prayojanam asya syāt.*

[626] Datt. 122cd *kalānāṃ samudāyo 'tha yugmo 'yugmo 'thavā bhavet*; SR 5, 17cd *caturaśras tathā tryaśra iti tālo dvidhā mataḥ.*

[627] Cf. Datt. 185c *trividho yug-ayuṅ-miśras*; 191ab *iti yugmaujamiśratvād ubhayor miśritocyate*; SR 5, 125ab *miśro 'ntaḥ ṣaḍvidhaḥ prokto yugmāyugmāṅgamiśraṇāt*; see further 5, 270-1; 6, 927, 937, 1050, etc.

6.4.5.2 Śārṅgadeva's view

The SR is very important for our understanding of the early medieval development of the *tāla* types because it reflects interesting discussions on the *saṃkīrṇa* as well as the *khaṇḍa* types of *tāla* (the latter is referred to as *deśī tāla*).

Saṅgītaratnākara 5, 39cd-42:

> *yugmasya ye trayo bhedāḥ, ṣaḍ vāyugmasya kīrtitāḥ*
> *teṣām anyonyasaṃsargāt saṃkīrṇā bahavo matāḥ*
> *anye pañcaiva saṃkīrṇān gāndharve 'bhidadhur budhāḥ*
> *pañca, sapta, navāpi syur, daśaikādaśa tatkalāḥ*
> *tālāś catvāra ity anye caturdaśakalādikāḥ*
> *caccatpuṭādibhedās tu santi khaṇḍābhidhāḥ pare*
> [629]*deśītālaprapañcena tān api vyāharāmahe*

> Three variations of the 'even' (type) and/or[630] six of the 'uneven' have been taught [above]; by combining them with one another, many *saṃkīrṇa* ('miscellaneous' patterns) are known [to have developed]. [However,] according to others, the experts have laid down only five *saṃkīrṇa* (patterns) in Gāndharva (music), which have [measures of] 5, 7, 9, 10 (and) 11 *kalā-s* [respectively]. [While] others [maintain that] there are [only] four (*saṃkīrṇa*) *tāla-s* having [measures of] 14, [15 and 16] *kalā-s*, etc.[631] But, there are other [fractional] variations of *cañcatpuṭa*, etc., called *khaṇḍa*,[632] which too I will treat while explaining the *deśī-tāla-s*.

Aside from the two standard *tāla-s* (SR 5, 17cd) Śārṅgadeva introduces two new types: *saṃkīrṇa* and *khaṇḍa*. The words Bharata used (*anayor miśrabhāvāt*) to describe *miśra*, Śārṅgadeva rephrases (*teṣām anyonyasaṃsargāt*) to explain *saṃkīrṇa*, his third type of *tāla*: it emerges from combining or mixing the variations (*bhedāḥ*) of the two principal types. Śārṅgadeva carefully avoids the term *miśra*, but instead uses *saṃkīrṇa* to refer to any kind of hybrid derivations. In all other places, however, he consistently uses the term *miśra*. It seems that Śārṅgadeva represents the view of some ancient masters mentioned by Abhinavagupta, who interpreted the NŚ (*m* 2) in such a way that the terms *miśra* and *saṃkīrṇa* were read as synonyms in the NŚ. Śārṅgadeva mentions the word *saṃkīrṇa* only at this place, but elsewhere, he uses the term *miśra*.[633]

---

[628] Cf. SR. 6, 926; 1050; etc.

[629] The Saṃgītadarpaṇa reproduces the entire passage (vv. 744-7), but inserts the following line just before the final one: *ta eva sālagā jñeyāḥ prasiddhyālakṣyavartmani* "Only they should be known as 'hybrid' [whose] popularity is not in the practical path."

[630] The particle *vā*, which is normally used in a disjunctive sense ('or', etc.), seems to have been used here in a conjunctive sense, at least when we assume that Śārṅgadeva follows Bharata in accepting nine variations: three of the even type and six of the uneven type (see above, vv. 40cd-44ab).

[631] What is meant here is not clear, so we follow the commentators Siṃhabhūpāla and Kallinātha, who explain that the first variation consists of 14 *guru-s*, the second of 15, the third of 16 and the fourth of 17 *guru-s*.

[632] A better interpretation of the this line is that 'there are further fractionalisations of *cañcatpuṭa*, and other (*tāla-s*), called *khaṇḍa*." According to the commentators 'further fractionalisations of the nine above-mentioned variations of *cañcatpuṭa*, etc. are called *khaṇḍa-s*.'

Śārṅgadeva acknowledges many variations (*saṃkīrṇā bahavo*), because when combined with one another, the three 'even' and six 'uneven' variations can yield a large number of combinations.[634] Note that Śārṅgadeva's explanation of *saṃkīrṇa* fully underscores my interpretation of Bharata's conception of *miśra*, namely that it does not represent a real 'hybrid' type involving the actual mixing of the *caturaśra* and *tryaśra* types, but only certain varieties of these types.[635]

The nine varieties referred to by Śārṅgadeva, have been explained by Bharata (KSS 31, 26-28). Both types of *tāla* are said to have three basic variations obtained by successive doubling and quadrupling, and which coalesce with the three states of structural expansion (*i.e.* *ekakala*, *dvikala* and *catuṣkala*).[636] Accordingly, the variations of the *yugma* type have measures of 4, 8 and 16 *kalā-s* respectively, and those of the *ayugma* type 3, 6, and 12 *kalā-s*. However, the latter type has three additional variations, namely of 24, 48 and 96 *kalā-s*.[637]

Table 30 Nine *miśra* varieties.

Tāla type	*Caturaśra*	*Tryaśra*		
Tāla pattern	*Cañcatpuṭa*	*Cācapuṭa* *Udghaṭṭa*	*Ṣaṭpitāputraka* *Sampakveṣṭaka*	?
kalā-s in:				
- *ekakala*	4	3	6	24
- *dvikala*	8	6	12	48
- *catuṣkala*	16	12	24	96

As to the total number of *saṃkīrṇa tāla-s*, opinions appear to have strongly deviated in Śārṅgadeva's time. It should be noted that though more than nine *tāla* variations have been mentioned in the NŚ and SR, yet only nine were acceptable for combining in *saṃkīrṇa* (or *miśra*) *tāla-s*.

---

[633] Cf. SR 5, 118, 124, 270; 6, 927, 937, 939, 957, 1036 and 1050.

[634] To show that Śārṅgadeva's statement about the existence of many *saṃkīrṇa tāla-s*, is authorized by tradition, Siṃhabhūpāla quotes NŚ 31, 1 and cleverly interprets it as if Bharata proclaims that '*Tāla* has been said to be manifold [...].' (*tālo ghana iti proktaḥ* ... etc.) But, in fact, this verse is a general introduction of *tāla*, where nothing is said about the *saṃkīrṇā* type, let alone its number. Siṃhabhūpāla misinterprets the word *ghana* in the common sense of a 'multitude/collection/mass', etc. In NŚ 31, 1 it is unmistakably used in the technical sense of a 'solid' instrument, such as a cymbal, etc. (see my translation of v. 1 in ch. 2).

[635] From all 120 *tāla* patterns discussed by Śārṅgadeva (SR 5, 239cd-312ab) only the one called *varṇa* has three varieties, viz. *tryaśra varṇa* (IIooII), *caturaśra varṇa* (SIooS) and *miśra varṇa* (oooó, oooó, oooó, ŚSooSiS) (SR 5, 270cd-2a). It is difficult to discern any genetic or 'additive' relationship between the *miśra* and the other two variants.

[636] Cf. GOS 31, 26-7; SR 5, 18c-19a.

[637] Cf. GOS 31, 28-9; SR 5, 25c-26b. In the SR the group of three additional variations are added to *cācapuṭa*, whereas in the NŚ they are more appropriately added to the *tryaśra* type (cf. GOS 31, 28ab *tryaśras tālas tu ṣaḍbhedas*).

Mataṅga too appears to have mentioned these variations of respectively 24, 48 and 96 *guru-s* [= *kalā-s*] (see Siṃhabhūpāla on SR 5, 39-42 [...] *muninā mataṅgena ca trayaḥ proktāḥ caturviṃśatiguruḥ, aṣṭācatvāriṃśadguruḥ, ṣaṇṇavatiguruś ceti | evaṃ ṣaṭ*). It is clear that Mataṅga and Śārṅgadeva follow the NŚ, because, like Bharata, they too do not explain why only three additional variations were allowed and not more.

- Śārṅgadeva first presents his own point of view, *viz.* that there are 'many' *saṃkīrṇa tāla-s*. By not mentioning a particular number, he seems to indicate that he himself accepts an unspecified number! But his predecessors such as Bharata, etc., or perhaps even contemporaries, whose opinions he briefly reflects, recognised only a limited number of *saṃkīrṇa tāla-s*.

- According to the first opinion there are only five *saṃkīrṇa tāla-s*, *viz.* of 5, 7, 9, 10 and 11 *kalā-s* respectively. This view possibly reflects the position of the NŚ (*m* 2), or perhaps more likely that of an interpolator. The sources do not indicate how these *tāla-s* were to be achieved, but from what we know thus far, it is most likely that they were the results of combining 'even' and 'odd' numbers of *kalā-s*.[638] Here the occurrence of the cardinal number 10 is disturbing, because as a multiplication of 5 (the first number), it does not fit in the arithmetical series of odd numbers, each following number increasing with two digits. Their additive nature may nevertheless be explained as follows:

5 = 2 + 3 (or 4 + 6)
7 = 4 + 3
9 = 4 + 3 + 2
10 = 4 + 3 + 3
11 = 4 + 3 + 4

- According to another opinion there are only four *saṃkīrṇa-s*, which, if the commentators are correct (see above, n. 631), have 14, 15, 16 and 17 *kalā-s* respectively. This series could at the most be explained as a further amplification of the former series of five, but now increasing with one digit. It may also be conceived as representing additive combinations of even and odd numbers, as for example:

14 = 4 + 4 + 3 + 3
15 = 4 + 4 + 4 + 3
16 = 4 + 3 + 3 + 3 + 3
17 = 4 + 4 + 3 + 3 + 3

Śārṅgadeva finally introduces a fourth type of *tāla*, viz. *khaṇḍa* which he succinctly describes as 'other variations of *cañcatpuṭa*, etc.', however, without indicating what should be understood by the terms 'other' (*pare*) and 'variations' (*bheda*). According to Siṃhabhūpāla, the nine expanded forms of *tāla-s*, such as *cācapuṭa*, etc., - mentioned earlier by Śārṅgadeva in connection with *saṃkīrṇa tāla-s* (SR 5, 39cd) - constitute these variations that are called *khaṇḍa*.[639] But what then constitutes the difference between *saṃkīrṇa* and *khaṇḍa tāla-s*? In this respect Kallinātha offers a more convincing explanation, *viz.* that the variations that arise when *tāla-s*, such as *cācapuṭa*, etc., are fractionalized (*prastāre kṛte*), are called *khaṇḍa* or *khaṇḍatāla*.[640] By relating the word *khaṇḍa* to the primary meaning of *bheda* as 'splitting/rendering', he lays bare the fractional nature of the *khaṇḍa tāla-s*. In this light SR v.

---

[638] Cf. S. Sambamurthy (1994, 174) who explains that *caturaśra* plus *tisra* (4+3) gives rise to *miśra jāti* (7); *miśra* plus *tiśra* divided by two (7+3 : 2) gives *khaṇḍa* (5); and *khaṇḍa* plus *caturaśra* (5+4) yields *saṃkīrṇa* (9).

[639] Sudhākara p. 27 *caccatpuṭādināṃ pūrvoktānāṃ navānāṃ khaṇḍākhyā bhedāḥ santi.*

[640] Kalānidhi p. 25 *ādipadena cācapuṭādayo gṛhyante* | *teṣāṃ bhedāḥ* [...] *prastāre kṛte sati ye bhedā utpadyante, te khaṇḍābhidāḥ khaṇḍatālasaṃjñāḥ.*

42ab could best be rendered as follows: "But, [besides the expanded states,] there are further (*pare*) fractionalisations (*bheda*) of *cañcatpuṭa*, and other (*tāla-s*), which are called *khaṇḍa*." This interpretation seems to make sense, especially when the meaning of *khaṇḍa* 'split/broken' is taken into account as a characteristic mark of this type. Elsewhere, while explaining the *khaṇḍa* nature of the *deśī tāla-s*, Śārṅgadeva fully corroborates this interpretation:

> When [time-units such as *guru*, etc., from [measures like] *caturaśra*, etc., are split and arranged [to form *deśī tāla-s*], or, when [smaller] fractions such as *laghu*, etc., are observed to dominate here, the ancient masters called them *khaṇḍa tāla*.[641]

The main characteristic of the *deśī tāla-s* is the predilection for fractioned time-units. However, this does not mean that the common units of time of the so-called *mārga tāla*, as described by Bharata, were not employed any more; they were only dominated by the abundance of smaller fractions. These fractions were obtained by splitting *pluta* into values of 1½ *mātrā*, the *guru* into 1 *mātrā*, and the *laghu-s* into ½ *mātrā* or *druta*, etc. This means that unlike the *mārga tāla-s* that were characterised by the emloyment of 'whole' or 'unbroken' units only, *viz.* the *guru* in particular, the *khaṇḍa* or *deśī tāla-s* were distinguished by so-called 'split' or 'broken' fractions such as the *laghu*, *druta*, *anudruta*, etc.

By treating the terms *saṃkīrṇa* and *miśra* as synonyms, Śārṅgadeva obviously did not accept them as separate types and thus recognised only four types, namely *caturaśra*, *tryaśra*, *saṃkīrṇa*, and *khaṇḍa*. Kallinātha points out that Śārṅgadeva has classified all *tāla-s* into these four types, but since a fifth type, *i.e.* (Bharata's) *miśra* is not mentioned, he fears an inconsistency. I have already indicated the discrepancy in the NŚ where Bharata, on the one hand, tends to reckon *miśra* as a distinct type, but on the other, still mentions its species as members of the *tryaśra* type. I tentatively explained the reference to *miśra* as an obvious case of interpolation.

Kallinātha first makes it unmistakably clear that Bharata has mentioned *miśra* as another type and quotes at least three passages from the NŚ to prove this point.[642] Thus noticing a discrepancy in the number on *tāla* types, marked by Śārṅgadeva's silence on *miśra*, he explains the latter's position as follows:

> According to his [= Bharata's] view *ṣaṭpitāputraka* and *Sampakveṣṭaka* are *miśra* [variants]. Therefore, [all] its variants are to be regarded as *miśra*. But, our author (*i.e.* Śārṅgadeva) who follows his [*i.e.* Bharata's] view, has reckoned even these two (*i.e. ṣaṭpitāputraka* and *Sampakveṣṭaka*) as *tryaśra* variants. Thus has been shown that there are only four types [of *tāla*].[643]

---

[641] SR 5, 254cd-255:
gurvādyāś caturaśrādeḥ khaṇḍayitvā niveśitā
yad vā laghvādikhaṇḍānām ādhikyam iha dṛśyate
tenaiṣāṃ khaṇḍatālatvam abhāṣanta purātanāḥ

[642] Kallinātha on SR 5, 42: *evaṃ sakalās tālāḥ caturasra-tryasra-saṃkīrṇa-khaṇḍabhedena caturdhā uktāḥ* | *miśratvenānyo bhedo muninā abhihitaḥ* | *yathā "asyāpi miśrabhāvāc ca miśras tālaḥ prakīrtitaḥ ṣaṭpitāputrakaś caiva pañcapāṇiḥ sa ceṣyate"* (cf. KSS 31, 12cd-3ab) "*tālādimiśrabhedo 'nyaḥ sampakveṣṭākasaṃjñitaḥ*" (cf. KSS 31, 22cd *tālādis tryaśrabhedo*).

[643] Ibid. *tanmate ṣaṭpitāputrakasampakveṣṭākau miśrau* | *atas tadbhedā miśratvenāvagantavyāḥ* | *granthakāreṇa tu tanmatānusāriṇā tāv api tryaśrabhedatvenoktau* | *ato 'nena cāturvidhyam eva darśitam* ||

Kallinātha testifies to the fact that Śārṅgadeva followed Bharata in reckoning *ṣaṭpitāputraka*, *Sampakveṣṭaka* and *udghaṭṭa* as species of *tryaśra tāla* (SR 5, 22-4). Even though Śārṅgadeva does not mention *miśra* in his account of *tāla* types, elsewhere he uses the term *miśra* to indicate hybrid forms. It is thus evident that Śārṅgadeva accepted *miśra* as a separate *tāla* type, but unlike Bharata, never related it to *ṣaṭpitāputraka*, etc. It remains unclear whether Śārṅgadeva considered *miśra* as a sub-class of *tryaśra* so that both could be classified under a single type. Śārṅgadeva's silence on *miśra* may indicate that *miśra* had not yet developed as a different type and therefore he left it undiscussed, but most likely it demonstrates his subtle way of disapproving the mention (read: interpolation) of *miśra* as a distinct type in Bharata's NŚ.

As regards *saṃkīrṇa*, it is anyway evident that Śārṅgadeva did not accept it as a separate type. As a matter of fact, no further mention is made of it in the rest of the work. In the section on *tāla* types, where they are mentioned, Śārṅgadeva seems to treat them as odd varieties of *miśra tāla-s*. It is also possible that Śārṅgadeva misinterpreted the pertinent verses from the NŚ (*m* 2) in such a way that the terms *miśra* and *saṃkīrṇa* were read as synonyms, and accordingly refers to Bharata's *miśra* as *saṃkīrṇa* (SR 5, 40ab).

The five ancient *tāla-s* apparently developed in two opposite ways. An external development characterised by additive features, led to the emergence of the *miśra* or *saṃkīrṇa tāla-s*, whereas an internal development characterised by fractional features, led to that of the *khaṇḍa tāla-s*. The *saṃkīrṇa tāla-s* were large structures because they were formed by combining two or more expanded forms of the *caturaśra* and *tryaśra* patterns. And like the expanded forms, they were thus also made up of *guru* syllables alone.[644] That means that the resulting structure is different from the original pattern(s) on which they were based. Nevertheless, the *saṃkīrṇa* or *miśra tāla-s* appear more closely related to the *mārga tāla-s*, because the contributing patterns retain not only their *guru* units of time, but also their structure(s), and are on that account recognisable in the new form. The *khaṇḍa tāla-s*, on the other hand, retained the formats of the principal *tāla-s*, but changed their internal structure beyond recognition by splitting and rearranging their time-units. In other words, the *guru* was abandoned as a standard and other values introduced, including their fractions. This development appears to be a reversion to structured forms such as the *yathākṣara*, which were characterised by their distinguished division of time by means of different time values. In this respect the emergence of the *saṃkīrṇa tāla-s* marks the end of a specific development, but perhaps at the same time gave way to the development of the *khaṇḍa* or *deśī tāla-s*.

Since a fivefold division of *tāla*-types does not seem to have existed in Śārṅgadeva's time or presumably earlier, one may conclude that this fivefold division reached completion in a later period when *miśra* and *saṃkīrṇa* were treated as different types. From Śārṅgadeva's account it follows that the *khaṇḍa tāla-s* emerged as a result of fractionalizations of the traditional *tāla* patterns. With the introduction of smaller units in the system, more combinations were possible. This explains to some extent why and how the small number of *mārga tāla-s* expanded so dramatically into those of the *deśī* system. The phenomenon of *deśī*, at least as far as *tāla* is concerned, can thus be characterised as a particular phase in de development of rhythmic genera, or more specifically, as the result of a historical transition from the ancient *mārga* systems of basically two types to five and even more of the *deśī* system.[645] On the other hand, the emergence of the *khaṇḍa tāla-s* heralded a diametrically opposite development, which probably still survives in modern traditions of Indian rhythm.

---

[644] Cf. Kallinātha (on SR 5, 39-42) *teṣāṃ saṃkīrṇānāṃ kalā gururūpāḥ*. See also dicussion on *prakṛti*, below, section 4.4.

6.5 *Tāla* expansion

6.5.1 Introduction

The metrical method of expanding the basic *tāla* forms (*yathākṣara*), as well as the resulting patterns, are also known as *tāla*. Structural expansion by doubling a measure in a number of successive stages, is a fundamental tool or tactic of varying, improvising or elaborating on a given theme. In this way three stages or states of expansion were distinguished, viz. *ekakala*, *dvikala* and *catuṣkala*. The method is rather systematic as it is based on certain arithmetical principles, such as duplication (*dviguṇā*) and division (*ardhayoga*).

Thus far the discussion on *tāla* has largely been limited to descriptions of its *yathākṣara* forms, their measures, types, time-units and beat-patterns. The present section focuses primarily on their expanded forms, the so-called duple and quadruple states derived from their *yathākṣara* proto-types.

The *tāla* measures were applied in a number of forms: (1) in their original or *yathākṣara* form; (2) in their expanded forms obtained by doubling or quadrupling the temporal durations of the basic patterns; (3) in hybrid forms obtained by combining the *yathākṣara* or expanded forms. The first two categories formed rather simple structures used for structuring small compositions or their components, whereas the third category constituted large and complex structures that were applied for structuring relatively elaborate vocal or dance productions.

One of the most remarkable features of rhythmic organisation is its method of structural expansion (or inflation). As a method of elaboration on a given theme, it was obviously an indispensable requisite in the musical repertoire of ancient Indian music. Not only the musical performance and choreography, but also the text of the verbal composition was carefully attuned to the overall form of structural expansion. In this respect the standard *tāla* measures (see § 6.3) played a crucial role as they stood at the basis of structural expansion; they provided the building units of elaboration.

The processes of structural inflation thus determined the entire form of the performance. The concept of inflatable form is perhaps one of the most distinctive structural features of ancient Indian music.[646] In what follows I describe the principles of structural expansion as laid down in the NŚ.

6.5.2 Textual difficulties

Unlike later sources, the NŚ does not treat the matter of *tāla* expansion in a systematic way in one place. If any coherent and systematic presentation ever existed, it survives only in fragments scattered over the entire first part of the *tāla* chapter. After an introduction of the two principal *tāla* types, it is briefly stated that the *dvikala* and *catuṣkala* states of *tāla* expansion are derived from them (v. 9), however, without any further clarification. Immediately after the description of the five standard *tāla-s*, there occurs a brief introduction of the basic numerical and metrical principles (vv. 25-29ab). The section on cheironomy also includes important directions about the arrangement of silent gestures in the *dvikala* and *catuṣkala* states (vv. 35-7ab); Then follows the first systematic discussion on the three states of expansion, where the basic principles are again reinforced (vv. 40cd-3). At the end of the first part of the *tāla* chapter, a section occurs dealing with the *dvikala* states of the three main *tāla-s* (vv. 47-56), followed by a relatively short section with directions for deriving the *catuṣkala* from the *dvikala* (vv. 57; KM 49 f.).[647]

---

[645] Narahari Cakravartī (ca. 18th century), for example, mentions eight *jāti-s*. See *Tālārṇava* (*Gītacandrodaya*) 51-2.

[646] Rowell 1992, 194.

The contextual isolation of some of these passages at least indicates that most of them are not in their proper place. This situation has unnecessarily obscured the relatively lucid style and exposition of the text in several places. Nevertheless, a close scrutiny of these passages yielded a relatively complete picture of *tāla* expansion as depicted in the following paragraphs.

6.5.3 Principles governing *tāla* expansion

Three formal states of expansion were recognised, namely *ekakala*, *dvikala* and *catuṣkala*. All three were commonly applied to all *tāla-s*. The first stage of expansion was called *yathākṣara* and represents the 'zero phase' of a given *tāla* type. As the basic form of any of the standard *tāla-s*, it could be 'expanded' or, say, be enlarged, to two or four times its original measure, by a process of consecutive duplication. However, *tāla* expansion was not merely concerned with doubling or quadrupling a particular measure. For example, a so-called 'four-fold' pattern (*catuṣkala*) was not derived by merely doubling the related 'two-fold' *dvikala* format, but by expanding the latter in such a way that the original structure (*i.e.* that of the *yathākṣara*) was carefully maintained, *i.e.* by embedding it in the characteristic distribution of audible and silent gestures.

Before the duple states could be derived from their respective *yathākṣara-s*, the latter first had to be modified to a more flexible and neutral form. *viz.* the *ekakala* that could be subjected to actual expansion. The processes of expansion were conditioned by certain principles, such as (1) the employment of uniform *guru* syllables; (2) expansion by means of duplication(s); (3) transmission of structural characteristics; (4) the employment of *pādabhāga* as a variable unit of time instead of *kalā*; (5) the addition of silent gestures to the audible beats; (6) an additional method of marking the silent gestures with the fingers and (7) a slight, but remarkable rearrangement of beats, *i.e.* the substitution of the final beat (either a *śamyā* or *tāla*) for a *sannipāta*.

6.5.3.1 Employment of uniform syllables (*prakṛti*)

Prima facie, *caturaśra* and *tryaśra*, the two fundamental types of *tāla*, appear as different entities, but nevertheless they have several characteristics in common. Bharata obviously refers to this common ground when stating that both *tāla-s* have one (common) 'nature' (*prakṛti*).[648] In the absence of direct clues for interpreting this nature, one may consider, for example, (1) the common number of syllables employed in *yathākṣara cañcatpuṭa*, and *cācapuṭa*; (2) the application of a common method of expansion; (3) a common mode of deriving the expanded states of any *tāla* from its syllabic state (*yathākṣara*) through a process of duplication and quadruplication respectively; (4) the preservation of the original *yathākṣara* structure in the expanded states in the form of a fixed structure of beats; (5) the unchanging number of *pādabhāga-s* in the expanded states; (6) the employment of a common set of gestures; (7) the exclusive employment of *guru* syllables in the expanded states;[649] etc.

---

[647] Many other passages may still be identified in other parts of the chapter (cf. vv. 65cd-7, 70, 72ab, etc.), including the section dealing with a parallel system reckoning with *yathākṣara*, *dvisaṃkhyāta* and *trisaṃkhyāta* (vv. 208-24), but they are mainly repetitions or applications of what has already been stated in the first part. We will have an opportunity to examine some of them while discussing the Āsārita compositions.

Abhinavagupta evidently also observed many of these common characteristics, but emphasised the fundamental position the *guru* syllable occupied in the system. One may understand this against the background of the historical dichotomy of a predilection for *guru* syllables in the traditional music (Gāndharva or *mārga*) and that for smaller time-units in the popular music (Gāna or *deśī*). He explains that "Here [in Gāndharva music] the division into *guru* syllables is homogeneous by nature. [In other words,] it is void of divisions, such as [*druta*,] *laghu*, *pluta*, etc., [in *deśī* music]. This characteristic (*prakṛti*) is the (common) base here, and depending on it *tryaśra* and the other divisions (of *tāla* types) [are made]."[650]

6.5.3.2 Phases of expansion: *ekakala, dvikala and catuṣkala*

Expansion in time actually means that more space is created for further musical activity. Apart from the application of repetitive tactics, the *tāla* method of expansion was usually applied in three successive phases, technically referred to as *eka-kala*, *dvi-kala* and *catuṣ-kala* respectively. As indicated by the numerical prefixes, they stand in a metrically fixed ratio to one another, *viz.* 1 : 2 : 4; each following phase is the double of the preceding one (cf. vv. 26-7; 40cd). Thus by inflating the *ekakala* with a factor two and four, one obtains the respective states of *dvikala* and *catuṣkala*. In other words, the process of expansion was actually a process of consecutive duplication because the fundamental *yathākṣara* (or *ekakala*) was rendered two or four times larger in the expanded states.

The original and unmodified form of a *tāla*, often referred to as the *yathākṣara* or 'syllabic form' of that *tāla* (see above, 6.3.2), is characterised by a fixed number and order of syllables. When the music required expansion, this form was first transformed into a 'flexible' form (*i.e.* the *ekakala*) that could be moulded into the actual expanded forms (*i.e. dvikala* and *catuṣkala*). Before the so-called 'twofold' (*dvikala*) and 'fourfold' (*catuṣkala*) states could be formed, first their syllabic form (*yathākṣara*) had to be modified into the so-called 'onefold' form (*ekakala*).

The transformation of the *yathākṣara* into the *ekakala*, was achieved by turning the heterogeneous nature of the former - constituted by short, long or protracted syllables - into a homogeneous texture of long syllables only. The number of *kalā-s* indicating the characteristic measure and type of that pattern is now represented by the same number of (uniform) *guru* syllables. That means that a long syllable indicates the same temporal value as a *kalā*, and *vice versa*.

---

[648] KSS v. 8ab *dvividhasyāpi tālasya tvekā prakṛtir iṣyate.*

[649] Cf. A.Bhā. p. 155, ll. 15 f. *nanu yadi gurudvayaṃ gurucatuṣkaṃ cātra mūlaprakṛtir vakṣyamāṇaṃ tarhi rūpaṃ na pradhānam ity*; ibid. ll. 18 f. *gurulaghuplutadrutabinduvaicitryādīnāṃ saṃkhyābhedasya dvaiguṇyādinā ca tālabhedasya yonibhūtaṃ jānīta yadyapi mūlabhūtaṃ gurvekaghanaprastāre ity arthaḥ.*

[650] *Ibid.* p. 154. ll. 11 ff. *gururūpo yo bhedaḥ, so 'traikasvabhāvo** *laghuplutādicchedavibhāgaśūnyaḥ, so 'tra* ***prakṛtir*** *mūlabhūtaḥ* | *tad apekṣayā ca tryaśretaravibhāgam* | [**svabhāve* GOS/GOML ms.]

6.5.3.3 Parallel notions of *yathākṣara* and *ekakala*

Before elaborating on this point, I should first consider the similarities and dissimilarities between *yathākṣara* and *ekakala*. Even though these terms stand for quite different structures, our author treats them like synonyms, apparently to indicate their interchangeability as related notions (cf. v. 25cd). The pure or unmodified form (*śuddha*) of the five standard *tāla-s*, usually represented by mnemonics or *yathākṣara-s*, such as *cañcatpuṭa*, etc., are collectively referred to as the *ekakala* form of those *tāla-s* (v. 25ab). Abhinavagupta, however, explains the word *śuddha* as referring to the *yathākṣara* forms.[651] The reasons for qualifying *ekakala* or *yathākṣara* as pure or *unmodified* forms, were apparently to contrast them with (1) the *modified* (or, by implication 'impure') forms that are derived from them in the process of expansion and (2) with the 'mixed' types of *tāla-s* derived by joining, *i.e.* when the syllabic instants of (one or more) existing patterns coalesce (see above, § 6.3.6).

In the series of duplications (*i.e. ekakala*, *dvikala* and *catuṣkala*), each succeeding state is the double of the preceding one (see vv. 25cd-8; 40-2). In this regard *ekakala* may incorrectly be conceived as also representing an expanded form, just like *dvikala* and *catuṣkala*. However, as demonstrated below, *ekakala* is *not* an 'expanded' form, but only a modified form of *yathākṣara*. The following table displays this modification as well as the stages of expansion of the three most important *tāla-s*, however without considering important factors, such as the structural imprint, cheironomy, etc.

Table 31 The stages of syllabic expansion.

Tāla	**Cācapuṭa**	**Cañcatpuṭa**	**Ṣaṭpitāputraka**
Kalā-s	3	4	6
Yathākṣara	S I I S	S S I Ś	Ś I S S I Ś
Ekakala	S S S	S S S S	S S S S S S
Dvikala	SS SS SS	SS SS SS SS	SS SS SS SS SS SS
Catuṣkala	SSSS SSSS SSSS	SSSS SSSS SSSS SSSS	SSSS SSSS SSSS SSSS SSSS SSSS

The table above illustrates that each *tāla* measure, normally indicated by the number of time-units (*kalā* = 2 morae), is represented in *ekakala* by the same number of *guru* syllables. Since each *guru* represents a *kalā* of two morae each, it follows that the original syllabic structure of *yathākṣara* has been abandoned completely. For example, the S S I Ś structure of *cañcatpuṭa* can hardly be observed in the S S S S structure of its *ekakala*. In the following paragraph I show that the other two states retain, or perhaps better regain, their original structure when the *guru* values are grouped according to their *yathākṣara* syllabic proportion.

As expanded forms, the *dvikala* and *catuṣkala* are the only states that really count. That means that *ekakala* represents nothing but a neutral, transitory or transformational mode that is useful for deriving the two higher grades. In other words, only the *dvikala* 'duple' and *catuṣkala* 'quadruple' are genuine states of metrical expansion, whereas the *ekakala* or 'primary' state is not; it is only a transitory form and a theoretical construct, seldom put into actual practice, unlike its *yathākṣara* form.

---

[651] A.Bhā. p. 162, l. 6 *śuddhaśabdo 'tra yathākṣaraśabdaḥ*.

6.5.3.4 *Dvikala* and *catuṣkala*

In the *dvikala* and *catuṣkala* states of expansion the distinct nature of *laghu*, *guru* and *pluta* values is immediately blurred, because in the processes of duplication or quadruplication, the different time-syllables that constitute the *yathākṣara* are automatically transformed into *guru* syllables. In other words, a *laghu* is doubled into a *guru*, a *guru* into two *guru-s*, and a *pluta* into three *guru-s*. In fact, the duplication forces all units of the *yathākṣara* to be expressed in terms of *guru-s* only. During this transformation the respective signs of a *laghu* and *pluta* (I and Ś) are thus replaced by the *guru* sign (S). Subsequently the *guru* syllable and its sign prevail as the only unit and mark in the expanded states.

Table 32 The exclusive employment of *guru* syllables in the expanded states.

	laghu	*guru*	*pluta*
yathākṣara	I	S	Ś
dvikala	S	SS	SSS
catuṣkala	SS	SSSS	SSSSSS

A disadvantage of using only *guru* syllables is that the structure of the original *tāla* form as indicated by the syllables constituting their names, becomes blurred. However, this can easily be made up by grouping the *guru* signs according to the proportionate value of the *yathākṣara* syllables, in such a way that the original metrical structure still remains visible. The *guru* syllables of, for example, *cañcatpuṭa* (S S I Ś; 2 : 2 : 1 : 3) may be grouped in the *dvikala* state as SS SS S SSS, and in *catuṣkala* as SSSS SSSS SS SSSSSS.

For the sake of easy comparison, the proportionate distribution of syllabic values in the three main *tāla-s* has been displayed in the following tables. Note that the measures of *cācapuṭa*, *cañcatpuṭa* and *pañcapāṇi* double to 6, 8 and 12 *kalā* respectively in *dvikala* and to 12, 16 and 24 respectively in *catuṣkala*.

Table 33 The proportionate distribution of syllabic values.

Cācapuṭa

Yathākṣara	S	I	I	S
Dvikala	SS	S	S	SS
Catuṣkala	SSSS	SS	SS	SSSS
Syllabic proportion	2	1	1	2

Cañcatpuṭa

Yathākṣara	S	S	I	Ś
Dvikala	SS	SS	S	SSS
Catuṣkala	SSSS	SSSS	SS	SSSSSS
Syllabic proportion	2	2	1	3

Pañcapāṇi

Yathākṣara	Ś	I	S	S	I	Ś
Dvikala	SSS	S	SS	SS	S	SSS
Catuṣkala	SSSSSS	SS	SSSS	SSSS	SS	SSSSSS
Syllabic proportion	3	1	2	2	1	3

Aside from the differences in measure and gestures employed, the *dvikala* and *catuṣkala* have certain points in common. The most important point of agreement is the imprint of the *yathākṣara* involved. Its rhythmic structure - reflected by the 'audible' beats distributed proportionately - is the most important factor that is passed on to the expanded states. As it marks the rhythmic flow and type of a particular *tāla*, it constitutes the most distinguishing factor of the expanded states. Note that the characteristic structure that is (or at least appears to be) lost in the *ekakala* is reinforced in the expanded states when it is imprinted on them.

Another point of note is the occurrence of a *sannipāta* at the end of the patterns. This is indeed a fascinating phenomenon. Even though Bharata offers no direct explanation for the substitution of the final beat (either a *śamyā* or *tāla*) for a *sannipāta*, there are interesting ways for interpreting the phenomenon in the context of cyclic expansion or continuation.[652]

It thus seems that the terms *ekakala*, *dvikala* and *catuṣkala* denote two different aspects of metrical expansion. One is that of the relative position of a given pattern within the three states of expansion that any *tāla* may have, and the other is that of the relative value of the *kalā*.

Since each succeeding grade is the double of the preceding one (cf. vv. 25cd-8; 40-2), they stand in a fixed ratio to one another, namely that of 1 : 2 : 4. In this respect the terms also pertain to the total span or measure of *tāla* patterns, *i.e.* the total number of *guru* syllables or *kalā-s* constituting them. So the *catuṣkala* variety of a given *tāla* refers to a measure four times larger than that of its *yathākṣara* or *ekakala* form.

It further becomes clear that the grades are grouped into regular divisions of respectively one, two and four *guru-s*, irrespective of the *tāla* type. They represent a new variable unit of time, called *pādabhāga*. In *ekakala* it had the value of one *kalā*, in *dvikala* of two *kalā-s*, and in *catuṣkala* of four *kalā-s*. It is a fundamental and variable unit whose value doubles in the consecutive states of expansion. In this regard *pādabhāga* is thus a convenient unit that indicates the relationship between time and the expanded states. Because of its variable nature, the *pādabhāga* bears out the literal meanings of the terms *ekakala*, *dvikala* and *catuṣkala*; it has the time-value of exactly one *kalā* or *guru* in *ekakala*, two in *dvikala* and four in *catuṣkala*, again irrespective of the *tāla*.

6.5.3.5 Structural representation

What is most significant here with regard to the identity of the expanded states is that throughout their transformations the structural characteristics of the original pattern is painstakingly retained. Even though the measures were altered and new gestures were introduced into the successive stages, the proportional distances between the audible beats were preserved. In other words, the structure imbedded in the pattern of beats, as a rule always reflects the nature of the original *tāla* or *yathākṣara* (see further § 6.3.2).

Yathākṣara has been explained as the basic state of a *tāla*, whose structure is embedded in the syllabic texture of the mnemonic of that *tāla*. In other words, the metrical structure is revealed by the fixed patterns of *laghu*, *guru* and *pluta* syllables constituting the mnemonic names. An interesting feature of the *yathākṣara* is that the gestures accompanying its syllables usually are audible beats; the expanded states, however, have silent gestures prefixed to the audible beats. The main feature of structural expansion is that metrical inflation does not effect the syllabic structure. In other words, the original measure is doubled or quadrupled, without altering the original structure. The metrical inflation actually boils down to prefixing silent gestures to the audible gestures of the *yathākṣara*. The emphasis here is on essential details such as (1) the application of silent gestures; (2) their demarcation by an additional set of gestures with the fingers and (3) the compulsory occurrence of a *sannipāta* beat at the end.

---

[652] For the interpretation offered by us, see above section 4.5 on the transposition of the *sannipāta*.

6.5.3.6 Divisions into *pādabhāga* instead of *kalā*

The time-units of the three states of each *tāla* were in a way grouped into regular divisions of one, two and four *kalā-s* respectively, represented by *guru* syllables. This new division of time is referred to as *pādabhāga* ('foot-part') and proves to be a useful tool or measure to indicate the relationship between the expanded states and their characteristic measure of time. Theoretically speaking, a *pādabhāga* is made up of either one, two or four gestures, depending on which state of expansion is involved (*i.e.* one in *ekakala*; two in *dvikala* or four in *catuṣkala*).

In the formation of the expanded states, the neutral matrixes of silent gestures were also made up of identical *pādabhāga-s*. Because of its variable value, *pādabhāga* bears out the literal meaning of the terms *ekakala*, *dvikala* and *catuṣkala*; it has the time-value of exactly one *kalā* or *guru* in *ekakala*, two in *dvikala* and four in *catuṣkala*, again irrespective of the *tāla* type.

Table 34 The relationship between *kalā*, *pādabhāga*, state of expansion and *tāla* type.

Yathākṣara	*cācapuṭa* S I I S	*cañcatpuṭa* S S I Ś	*pañcapāṇi* Ś I S S I Ś
Ekakala	S S S 3 pādabhāga-s of 1 kalā	S S S S 4 pādabhāga-s of 1 kalā	S S S S S S 6 pādabhāga-s of 1 kalā
Dvikala	SS SS SS 3 pādabhāga-s of 2 kalā-s	SS SS SS SS 4 pādabhāga-s of 2 kalā-s	SS SS SS SS SS SS 6 pādabhāga-s of 2 kalā-s
Catuṣkala	SSSS SSSS SSSS 3 pādabhāga-s of 4 kalā-s	SSSS SSSS SSSS SSSS 4 pādabhāga-s of 4 kalā-s	SSSS SSSS SSSS SSSS SSSS SSSS 6 pādabhāga-s of 4 kalā-s

The fact that *pādabhāga* is presented as new variable unit of time in *tāla* expansion, poses an interesting problem because at the beginning of the *tāla* chapter, *kalā* was already introduced as the standard and variable unit of time.[653] It could assume the value of either two, four or eight *mātrā-s* and its variability depended on the style (*mārga*) and tempo (*laya*) in which the music was performed. However, now this variability is transferred to *pādabhāga*, whereas *kalā* becomes invariable and, in fact, assumes the role of the old *mātrā*!

The notion of *pādabhāga* ('foot-part'), as another variable standard of time, proves its utility in the expanded states as a more practical substitute for *kalā*. Although this new unit of time is not so well described in the NŚ, it appears to be implied in Bharata's exposition of *tāla* expansion, especially in some of the compositions. As a fundamental and variable unit of time whose value doubles in the respective states of expansion, it assumes the measure of one *kalā* in *ekakala*, of two *kalā-s* in *dvikala*, and of four *kalā* in *catuṣkala*. In other words, the expansion (read 'doubling') of the *pādabhāga-s* of the original pattern, naturally resulted in expanded measures of two or four times their earlier size.[654]

---

[653] Since this measure is vaguely mentioned at the end of the first part of the *tāla* chapter, it may still represent a later stage of formalization (see KM 49cd f.). This means that *pādabhāga* perhaps replaces *kalā* - the presumably older notion of a variable unit of time, as described in the beginning of the *tāla* chapter (vv. 1-6).

Because of its exclusive applicability in the states of expansion, the notion of *pādabhāga* has no practical utility in the *yathākṣara* forms. It is also the reckoning with *pādabhāga-s* that distinguishes the *ekakala* from the *yathākṣara*. Even though these two forms are often used as synonyms, structurally they are not. The *yathākṣara* forms were coined to indicate the rhythmic structure of the *tāla-s* by way of a characteristic distribution of *laghu*, *guru* and *pluta* syllables, but in the *ekakala* this structure is abandoned with the introduction of *guru-s* only. In other words, the heterogeneous texture of the *yathākṣara* is completely homogenised into *guru* syllables. By grouping them into *pādabhāga-s*, a suitable unit of time was formed to relate to the state of expansion as well as the *tāla* type.

A set of laws emerges quite clearly: (1) In a given *tāla* the number of *pādabhāga-s* remains constant, irrespective of the state of expansion. Since this number is related to the characteristic measure (read: number of *kalā-s*) of that *tāla*, it reflects the type of the latter. Accordingly, there are three *pādabhāga-s* in *tryaśra*, four in *caturaśra* and six in *miśra*. In other words, irrespective of the state of expansion, the 'uneven' *cācapuṭa* pattern always has three *pādabhāga-s*, the 'even' *cañcatpuṭa* four, and the 'mixed' *pañcapāṇi* six. (2) In a given state of expansion, the measure of *pādabhāga* remains constant, irrespective of the *tāla*-type. In other words, it changes only when the state of expansion is altered. Accordingly, the measure in the three successive states of expansion is one *kalā* (*ekakala*), two *kalā-s* (*dvikala*) and four *kalā-s* (*catuṣkala*) respectively. Since each following state has been derived by duplication of the preceding one, the three states relate to one another as 1 : 2 : 4. And it is this particular ratio that is reflected by the measure of the respective *pādabhāga-s*. In other words, the single, duple and quadruple nature of *ekakala*, *dvikala* and *catuṣkala* respectively, is reflected by their measure as well as characteristic ratio-number.

Moreover, the latter also reflects the same number of *kalā-s* and gestures (either silent of audible) that occur in a given *pādabhāga*, because each gesture has the duration of one *kalā*.

All these considerations confirm the idea that *pādabhāga* is only a basic though variable unit of time that conveniently substitutes the older notion of *kalā*. By its application, a given pattern could evenly be divided into a number of equal parts. Depending on the *tāla* type of that pattern, one could divide the latter into either three, four or six *pādabhāga-s*, and depending on the state of expansion, it assumed the value of one, two or four *kalā-s*.

6.5.3.7 *Pādabhāga* & *mātrā*

Larger measures could be built by combining a particular number of *pādabhāga-s*. The author accordingly prescribes that four *pādabhāga-s* make a measure called *mātrā* (v. KM 50ab), which is comparable to a 'verse/line' of a poetical composition. Our text reckons with *mātrā-s* of three up to six *pādabhāga-s*. Rowell therefore tends to explain *pādabhāga* as forming the fourth part of a larger unit.[655] But this restriction is incomplete and misleading because it restricts the application of *pādabhāga-s* to the *caturaśra tāla*, because only there do we have four *pādabhāga-s* in a pattern. He seems to have overlooked the 'odd' *tāla-s*, because a *cācapuṭa* pattern may be divided into three *pādabhāga-s* and *pañcapāṇi* into six. Rowell is probably misled by Bharata's as well as Dattila's single illustration of *mātrā* as a measure made up of four *pādabhāga-s*.[656] I argue below that these descriptions are elliptical and formulaic and require further interpretation to comply with the rules of *tāla* expansion.

---

[654] More on *pādabhāga*, see above, discussion on vv. 57 and KM 49cd f. and § 6.2.

[655] Rowell 1992, 191, 220, 245 f., 383.

Just before treating the *dvikala* or *catuṣkala*, Dattila introduces *pādabhāga* and *mātrā* as two new measures:

> Discarding [common measures such as] *guru*, [*laghu*] and *pluta*, one should form [specific measures such as] *pādabhāga-s* of two, [four or eight] morae (*mātrā*). With [three,] four [or six] of these (measures) an(other measure called) *mātrā*[657] is taught.[658]

Dattila thus implies that to form the expanded states one first needs to discard prosodic units such as *guru*, *pluta* and *laghu*, used thus far for outlining the *yathākṣara* forms; instead one should use a new category of measures, say *tāla*-related units such as *pādabhāga* and *mātrā*. Without our interpretation [between parentheses] this stanza describes only the formation of the *ekakala cañcatpuṭa*, because only it consists of four *pādabhāga-s* of two *mātrā-s* (= one *guru/kalā*) (see table above). Such a restriction seems illogical, and since we are familiar with Dattila's terse, but comprehensive style, it is safe to assume that the units for all three states of expansion have been implied.

Even though the application of *pādabhāga* (as well as that of *mātrā*) is solely found in the two highest states of expansion - as attested to by the NŚ[659] and reconfirmed by modern scholars[660] - Dattila probably did not wish to exclude the theoretical possibility of their application in the *ekakala*. He evidently refers to this particular state when explicitly stating that 'one should form *pādabhāga-s* of two [and more] *mātrā-s*.' Because it is only in this state that *pādabhāga-s* are made up of two *mātrā-s* (= one *guru/kalā*).[661] Note that the *mātrā* mentioned here is the commonly known 'mora' (see discussion above, to vv. 2-6).[662] In *ekakala* patterns the *pādabhāga-s* have a measure of two *mātrā-s* (1 *guru*), in *dvikala* of four *mātrā-s* (2 *guru-s*), and in *catuṣkala* of eight *mātrā-s* (4 *guru-s*). The practical utility of these terms is certainly recognised, and for the sake of easy reference, one may compare *pādabhāga* and *mātrā* with a 'foot' and 'verse'/'line' respectively in poetry (see above, §§ 2.9.2 and 6.2).

---

[656] Apparently influenced by Rowell's interpretation of *pādabhāga*, Kintaert (2000, 71) hesitates in recognising a *mātrā* in, e.g., the 3 *pādabhāga-s* of *dvikala cācapuṭa*: "Es lässt sich hier keine vollständige *MĀTRĀ* herstellen, da sich diese 6 *kalā*s nur in 3 *pādabhāga*s von je zwei *kalā*s teilen lassen, wodurch der Terminus '*pādabhāga*' (Viertel) seinem Namen nicht gerecht wird."

[657] This *mātrā* should not be confounded with the eponymous, but much smaller unit mentioned in the first hemistich. The latter *mātrā* has been defined earlier (NŚ 31, 5) as a measure of 5 blinks of the eye (see § 4.1).

[658] Datt. 130cd f. *guruplutāni hitvā 'tha dvimātrān parikalpayet* || *pādabhāgāṃś, caturbhis tair mātreti paribhāṣyate* | As for the latter half, cf. KM 50ab catvāraḥ pādabhāgāś ca mātreṯi paricodyate |

Unlike E. te Nijenhuis (1970, 39), M. Lath does not seem to have noticed that *pādabhāgāṃś* (m. acc. pl.) in the second line is the actual object whose qualification *dvimātrān* (acc. pl.) occurs first. The object is thus '*pādabhāgā-s* of two *mātrā-s*'. Lath translated: "....render [all divisions] into [uniform units of] two mātrās each. [This will give us] *pādabhāgas*. A set of four *pādabhāgas* is [called] *pāribhāṣika mātrā*." (1988, 27; cf. 1978, 330)

[659] KM 31, 49cd dvikalaś catuṣkalaś ca pādabhāgaḥ prakīrtitaḥ.

[660] Cf. Lath 1988, 142, 146, etc.; Rowell 1992, 246; etc.

[661] E. te Nijenhuis seems to avoid this explanation by interpreting Dattila's *dvimātrā* as *dvikala* (1970, 343). Note that a *mātrā* equals a *kalā* only in the case of *dhruva mārga*, a neutral and fundamental style hypothesized by Dattila to explain the three traditional styles (vv. 240cd f., see above n. 551).

[662] Two *mātrā-s* equal a *kalā* and the latter equals the metrical instant of a *guru*. Cf. Datt. 124c *kalāṃ guruṃ yuñjīta*; 116c *dvimātrā syāt kalā citre*. See also SR 5, 20a *guruḥ kalātra*.

The NŚ (in its present form) pays less attention to these relatively new units than they actually deserve. In the description of the songs (*gītaka*), a line of a given composition is sometimes called a *mātrā* ('verse-measure') and often described as constituted by four or six *pādabhāga-s*. That means that not only the notion of *pādabhāga* and *mātrā*, but also their correlation was well-known to Bharata, at least when we assume that other parts of the *tāla* chapter are also the work of his hands. Particularly the section on the *madraka* song contains various references to *pādabhāga* and *mātrā*.[663] Since these notions are fundamental to the arithmetic and method of *tāla* expansion, it is puzzling why they have been introduced so tersely and so late; that is after the formal treatment of the *tāla* cheironomy and expansion, and not earlier, say somewhere right at the beginning when these issues were introduced, viz. before vv. 25 ff. or 46. That would have provided the right tools for grasping the entire treatment in a much easier way. The procedure suggested here, is in fact attested to in the Dattilam and Saṅgītaratnākara.

From the point of view of *tāla* cheironomy, only two silent gestures, viz. *niṣkrāma* and *praveśa* constitute *pādabhāga-s* in *dvikala*, but in *catuṣkala*, all four, viz. *āvāpa*, *niṣkrāma*, *vikṣepa* and *praveśa*. This is true for the so-called matrixes (see §§ 6.6.1.1 and 6.6.2.1) upon which the beat structures of respective *tāla-s* are imprinted later on (see §§ 6.6.1.2 and 6.6.2.2). A remarkable feature described by the NŚ is that *niṣkrāma* and *praveśa* are marked additionally with certain fingers. However, according to the Datt. and SR, the *pādabhāga-s* themselves are marked (see further § 6.6.3).

Per *pādabhāga* one particular silent gesture, either the *niṣkrāma* or *praveśa*, had to be marked. The demarcation of these gestures appears to be alternating. When, for example, the *niṣkrāma* of one *pādabhāga* is already marked, and the following *pādabhāga* does not contain a *praveśa*, then again its *niṣkrāma* should be marked, as is the case in *cācapuṭa*. Note that only the silent gestures in their neutral form, occur at regular distances and that the regularity of their occurrence is 'disturbed' by the superimposition of the beats from the *tāla-s*. The occurrence of one or two audible beats in a *pādabhāga* diminishes the possibily of a silent gesture being marked, especially when the beats are superimposed on the gestures that carry a mark (*i.e.* *niṣkrāma* or *praveśa*). This is exactly the case in the second *pādabhāga-s* of *cācapuṭa* and *pañcapāṇi* in both the *dvikala* as well as the *catuṣkala* states of expansion.

6.5.4 Nine popular *tāla* variations

As a matter of fact, any *tāla* pattern, either simple or complex, could have three basic variations (*bheda*): *yathākṣara* [= *ekakala*], *dvikala* and *catuṣkala*, of which each subsequent variation is obtained by doubling the measure of the preceding one (*dviguṇā dviguṇā*). Bharata also discusses the number of variations that could be formed by applying the method of *tāla* expansion. Since the three states of a given *tāla* were regarded as variations (*bheda*), the five traditional *tāla-s* yield at least fifteen varieties. Note that we do not consider the numerous other possibilities that are created by combining some of these fifteen and then expanding them as in the case of compositions such as Āsārita, Madraka, and so on. However, Bharata accepts only nine: three of the *caturaśra* type and six of the *tryaśra* types: Both types of *tāla* have three basic variations (*i.e.* *ekakala*, *dvikala* and *catuṣkala*). Accordingly, the variations of the *caturaśra* type have measures of 4, 8 and 16 *kalā-s* respectively and those of the *tryaśra* type 3, 6, and12 *kalā-s*. Moreover, the latter type has three additional variations, namely of 24, 48 and 96 *kalā-s*:

---

[663] Cf. KSS XXXI, 317, 319ab, 322cd, 323cd, 335ab, 337ab and 388cd.

Table 35 *Tāla* variations

Tāla type	*Caturaśra*	*Tryaśra*		
Tāla pattern	*Cañcatpuṭa*	*Cācapuṭa* *Udghaṭṭa*	*Ṣaṭpitāputraka* *Saṃpakveṣṭaka*	?
kalā-s in:				
- *ekakala*	4	3	6	24
- *dvikala*	8	6	12	48
- *catuṣkala*	16	12	24	96

The reasons for this restriction are not clear, but we may assume that while discussing the basic *tāla-s*, he considered only their primary variations. Obviously not all variations were unique or rhythmically as interesting as some others. We may try to explain this restriction by studying the number of *kalā-s* per *tāla*. A glance at the table above shows that some 'repetitions' were admitted. Notably, all repeated variations (*i.e.* of 6, 12, 24 *kalā-s*) are of the *tryaśra* type and perhaps therefore considered superfluous since they overlap one another as regards their measure. The last two variations of *cācapuṭa* and *udghaṭṭa* run parallel with the first two of *ṣaṭpitāputraka* and *saṃpakveṣṭaka*. Even though both pairs are the same with respect to their measure, structurally they differ significantly. It is not clear which criteria were applied for discarding or retaining a given repetition.

What is most striking is that the last variation (of 24 *kalā*) of the latter two *tāla-s* resembles or overlaps, at least metrically, the first of another series (that I have placed in a separate column, shaded). The type of that series is undoubtedly *tryaśra tāla* (as indicated in v. 27cd). The numbers 24, 48 and 96 perfectly tally with those of *cācapuṭa* and *udghaṭṭa* (*i.e.* 3, 6, 12) and suggest that they belong together. Śārṅgadeva seems to corroborate this view when stating that "beyond the *catuṣkala* (state), *cācapuṭa* has another group of three variations."[664] However, this idea seems problematic because it runs up against one of the implied principles of expansion, *viz.* that *tāla* variations of a given pattern were to be made into three phases only (*i.e. ekakala*, *dvikala* and *catuṣkala*). The variations of 24, 48 and 96 *kalā* involve the admittance of more than three phases.

Since these variations were accepted by tradition, they were probably regarded as forming a different series where the number 24 stands for the *ekakala*, 48 for the *dvikala*, and 96 for the *catuṣkala*. From that point of view, it seems likely that the *catuṣkala* of *ṣaṭpitāputraka* or *saṃpakveṣṭaka* (24) has been adapted as the *ekakala/yathākṣara* of the new series.

6.6 Cheironomy and *tāla* expansion

The most striking feature of the expanded states (*i.e. dvikala* and *catuṣkala*) is the application of silent gestures.[665] Aside from *śāmyā*, *tāla* and *sannipāta*, the three audible beats already applied in *yathākṣara* (vv. 37cd-40ab, see above, § 4.4), a distinct set of four silent gestures, viz. *āvāpa*, *niṣkrāma*, *vikṣepa* and *praveśa*, has been prescribed specially for the expanded states (vv. 33cd-37ab; 174). Note that beside these two sets of gestures that are relatively well-described, there also exists another set of gestures executed exclusively by the fingers and tersely illustrated (see § 6.6.3).

---

[664] SR 5, 25cd f. *anyad bhedatrayaṃ cācapuṭe 'py asti catuṣkalāt | dviguṇadviguṇatvena ṣaṇṇavatyavadhi kramāt.*

[665] For the definitions of the audible and silent gestures see vv. 29cd-40ab and above, chapter II.

The 'silent' gestures are, as a rule, always prefixed to the audible beats. In the process of structural expansion some of them are suppressed and replaced by the dominant *yathākṣara* beats, but their fundamental function should, nevertheless, not be underestimated because their recurrent patterns (viz. *ni-pra-* in *dvikala*, and *ā-ni-vi-pra* in *catuṣkala*) provide a useful tool for constructing a 'neutral background substratum'[666] for the expanded states.

From the four gestures accepted, only two were used in the *dvikala*, viz. *niṣkrāma* and *praveśa* (v. 37ab),[667] but all four in *catuṣkala* (vv. 35cd-36). Of particular interest, is the antecedence and subsequence of these gestures, *i.e.* the specific order in which the audible beats, the silent gestures and the movements of fingers were arranged in relation to one another.

Unlike the relatively detailed exposition of the *dvikala* cheironomy, that of *catuṣkala* is brief and elliptical. Neither are its *kalā-s*, beats and gestures spelled out one by one as in the case of *dvikala*, nor is it explained how they may be derived from the latter, except for a doubtful stanza at the end of *tāla* cheironomy (v. 56) where a vague direction is offered for how to derive the *catuṣkala* matrix of silent gestures from that of *dvikala*.

Immediately after the stanza mentioned above, the KM and GOS versions of the NŚ have another stanza (KM vv. 49cd-50ab) that mentions two other measures or units of time, viz. *pādabhāga* and *mātrā*. In the theory and derivation of *tāla* expansion they prove to be very convenient, though not essential units of time. I have argued above that because of their interdependence these two terms may best be compared with the notions of 'foot' and 'verse/line' respectively in poetry.[668] Since these useful units are employed profusely in the *gītaka-s* and other compositions, one would expect them to be properly introduced in the discussion on *tāla* expansion. However, the references to them in the introductory part of the *tāla* chapter are terse and obscure.

6.6.1 Cheironomy in *dvikala*

The application of cheironomy in the *dvikala* state, as described by Bharata for the three main *tāla-s* (vv 47-56), may be displayed in a tabular form as follows:

---

[666] Rowell 1992, 194. Abhinavagupta refers to the neutral bases as *sāmānya lakṣaṇa* 'general characteristics' (see A.Bhā. on NŚ [GOS] 31, 35). Cf. 'general rule' M. Lath (1978, 332 ff.).

[667] KSS 31, 37ab *niṣkrāmaś ca praveśaś ca dvikale parikīrtitau*. This line is identical with Datt. 137.

[668] See above, §§ 2.9.2; 6.2 and 6.5.37.

Table 36 *Dvikala* patterns.

Cācapuṭa (2 : 1 : 1 : 2)

Kalā-s	1	2	3	4	5	6
Gestures	*ni*	*śa*	*tā*	*śa*	*ni*	*saṃ*

Cañcatpuṭa (2 : 2 : 1 : 3)

Kalā-s	1	2	3	4	5	6	7	8
Gestures	*ni*	*śa*	*ni*	*tā*	*śa*	*pr*	*ni*	*saṃ*

Pañcapāṇi (3 : 1 : 2 : 2 : 1 : 3)

Kalā-s	1	2	3	4	5	6	7	8	9	10	11	12
Gestures	*ni*	*pr*	*tā*	*śa*	*ni*	*tā*	*ni*	*śa*	*tā*	*pr*	*ni*	*saṃ*

6.6.1.1 *Dvikala* matrixes of silent gestures

These tables indicate that most of the audible gestures (*i.e. tāla* beats) were prefixed by one or two silent gestures. The formation of these patterns is interesting, and the *modus operandi* appears to have been as follows: first a *mātrā*-matrix of silent gestures was prepared upon which the beats were embedded according to the structure of a particular *tāla*.[669] Even though the NŚ is not very clear on this procedure, it is anyway evident that there were certain fixed rules governing these regularities. In what follows an attempt is made to reconstruct these rules.

When the *dvikala* patterns above are stripped of their audible beats, strings of silent gestures remain. Note that only *niṣkrāma* and *praveśa* are used, whereas the other two gestures (*i.e. āvāpa* and *vikṣepa*) are excluded. This numerical restriction corroborates the idea that in *dvikala*, as far as silent gestures are concerned, only *niṣkrāma* and *praveśa* were employed and presumably in the same order (see vv. 37ab and KM 49cd).[670] Two conclusions may be drawn from these observations: (1) Each pattern was originally conceived of as a matrix of silent gestures arranged into pairs of two (*i.e. ni-pra*). Later on (below, vv. 57 ff.) these pairs came to be called *pādabhāga* 'foot-part'. The relationship between the *mātrā*-matrix and *pādabhāga-s* is comparable to that between a verse and its feet in poetry (cf. n. 668). Because of this parallelism we may conveniently refer to *pādabhāga* as 'foot'; (2) Each pattern is made of a certain number of *pādabhāga-s* characteristic to the *tāla* of that pattern. This means that in accordance with the *tāla* type a pattern consists of either three, four or six *pādabhāga-s*. In other words, the matrix of silent gestures in *cācapuṭa* was made of three *pādabhāga-s*, that of *cañcatpuṭa* of four, and that of *pañcapāṇi* of six.[671]

---

[669] On the relationship between *pādabhāga* and *mātrā*, see note 669.

[670] Abhinavagupta refers to a different view according to which *āvāpa* and *niṣkrāma* make up *dvikala* patterns. However, this view was never accepted. See further Lath 1988, 144 f.

[671] It is somewhat curious why these two new metrical measures have been treated only after the rules for deriving the *catuṣkala* have been laid down (v. 57).

Table 37 The matrixes of silent gestures underlying the *dvikala* patterns.

Cācapuṭa (2 : 1 : 1 : 2)

Kalā-s	1	2	3	4	5	6
Gestures	*ni*	*pr*	*ni*	*pr*	*ni*	*pr*

Cañcatpuṭa (2 : 2 : 1 : 3)

Kalā-s	1	2	3	4	5	6	7	8
Gestures	*ni*	*pr*	*ni*	*pr*	*ni*	*pr*	*ni*	*pr*

Pañcapāṇi (3 : 1 : 2 : 2 : 1 : 3)

Kalā-s	1	2	3	4	5	6	7	8	9	10	11	12
Gestures	*ni*	*pr*	*ni*	*pr*	*ni*	*pr*	*ni*	*pr*	*ni*	*pr*	*ni*	*pr*

The formation of the *dvikala* matrixes of silent gestures as reconstructed here, is fully attested to further on in the subsequent treatment of the 'medium' *āsārita* (vv. 71cd-172) and (the limbs of) the *gītaka-s* (*passim*). It also agrees with an earlier section dealing with *tāla* cheironomy (vv. 29cd-40ab) where - after introducing the four silent gestures - the author appears to indicate (or at least appears to suggest) the typical order in which they were to be arranged in the expanded states, viz. *niṣkrāma-praveśa-* repetitions in *dvikala*, and *āvāpa-niṣkrāma-vikṣepa-praveśa-* repetitions in *catuṣkala* (v. 36). The following discussion also corroborates the notion that Bharata indeed considered these two recurring patterns as cheironomic units which he used to build the neutral matrixes of silent gestures for the respective expanded states.

6.6.1.2 *Yathākṣara* imprint on *dvikala* matrixes

This takes us to the second point of the formation, *viz.* the superimposition of the audible beats on the matrixes of silent gestures.[672] One of the most characteristic features of the expanded states (at least of the *dvikala*) is that when these beats are arranged, they fully reflect the rhythmic structure of the respective *yathākṣara* form. This means that the audible beats are distributed according to the characteristic ratio of time (or temporal duration) as set by the *yathākṣara* patterns. The beats are spaced and related to one another according to the immutable metrical ratio of 2 : 2 : 1 : 3 in *cañcatpuṭa*, 2 : 1 : 1 : 2 in *cācapuṭa* and 3 : 1 : 2 : 2 : 1 : 3 in *pañcapāṇi* (see above, section 6.3; vv. 7-14ab).

In fact, the ordinal numbers correspond with the relative duration of the beats. For example, the *dvikala cañcatpuṭa* pattern counts eight *kalā-s* (*i.e.* 2 x 4) and they are distributed proportionately as follows: the first two beats have a duration of two *kalā-s* each, the third of one, and the fourth of three. Bharata, however, describes this differently by prescribing a *śamyā* beat on the second *kalā*, a *tāla* on the fourth, a *śamyā* on the fifth and a *sannipāta* on the eighth (vv. 48-50). A glance at the table above shows that beats with the duration of only one *kalā*, have no additional marking with a silent gesture, whereas those with two or three *kalā-s*, have one or two additional markings respectively.[673] Thus the underlying rule is that beats of more than one *kalā* duration, should mark the additional *kalā-s* with silent gestures. Notably these silent gestures were as a rule always augmented to their corresponding beat. Bharata spells them out as follows: the first two beats of *cañcatpuṭa* are augmented by a *niṣkrāma* each, the third without any, and the fourth by two, viz. *praveśa* and *niṣkrāma*.

---

[672] In *cācapuṭa*, for example, the second, fourth, fifth and the eighth silent gestures from the neutral basis are substituted by the corresponding audible beats from the *yathākṣara*.

[673] In *catuṣkala* the ratio-number 1 is augmented by one gesture, number 2 by three gestures and number 3 by five gestures (vv. 57, KM 49cd-50ab).

What happens, in fact, is that the rhythmic structure of the *yathākṣara* is imprinted on a neutral base of silent gestures. The silent gestures occurring on the 2nd, 4th, 5th, and 8th *kalā-s* of *cañcatpuṭa*, the 2nd, 3rd, 4th, and 6th of *cācapuṭa* and the 3rd, 4th, 6th, 8th, 9th, and 12th of *pañcapāṇi*, are thus substituted by the audible beats of the respective *yathākṣara* forms. A peculiar exception to this rule is the last beat, which, according to another rule, is further substituted by a compulsory final *sannipāta* beat (discussion follows). The entire process of imprinting *yathākṣara* beats may be displayed as follows for the three main *tāla-s*:

Table 38 *Dvikala* patterns as a result of *yathākṣara* imprint on the matrixes of silent gestures.

Cācapuṭa

Kalā-s	1	2	3	4	5	6
Yathākṣara beats		*śa*	*tā*	*śa*		*tā*
Silent gestures	*ni*	*pr*	*ni*	*pr*	*ni*	*pr*
Dvikala pattern	*ni*	*śa*	*tā*	*śa*	*ni*	*saṃ*
Ratio	2		1	1	2	

Cañcatpuṭa

Kalā-s	1	2	3	4	5	6	7	8
Yathākṣara beats		*śa*		*tā*	*śa*			*tā*
Silent gestures	*ni*	*pr*	*ni*	*pr*	*ni*	*pr*	*ni*	*pr*
Dvikala pattern	*ni*	*śa*	*ni*	*tā*	*śa*	*pr*	*ni*	*saṃ*
Ratio	2		2		1	3		

Pañcapāṇi

Kalā-s	1	2	3	4	5	6	7	8	9	10	11	12
Yathākṣara beats			*tā*	*śa*		*tā*		*śa*	*tā*			*śa*
Silent gestures	*ni*	*pr*	*ni*	*pr*	*ni*	*pr*	*ni*	*pr*	*ni*	*pr*	*ni*	*pr*
Dvikala pattern	*ni*	*pr*	*tā*	*śa*	*ni*	*tā*	*ni*	*śa*	*tā*	*pr*	*ni*	*saṃ*
Ratio	3			1	2		2		1	3		

Dattila fully corroborates Bharata's procedure of deriving the *dvikala* patterns, but of course in his distinguished systematic style. He is very clear about the way a pattern should be formed: first the silent gestures should be arranged and then the beats. Unlike Bharata, he does not spell out each and every beat or gesture, obviously because that could be derived from the *yathākṣara-s* structures and the combination of beats applied (*i.e.* Śamyādi, Tālādi, etc.; see § 4.4). He indicates that first a matrix of silent gestures should be formed with recurring units, called *pādabhāga*. In *dvikala* a *pādabhāga* comprises of a pair of *kalā-s*, with a *niṣkrāma* on its first *kalā* and a *praveśa* on its second. Only when this matrix was prepared, could the audible beats be 'arranged' (read: imprinted) on their respective places.[674] Dattila further suggests that the latter was done according to the metrical ratio of beats in *yathākṣara*, as seems from his illustration of the beat formation of the 'twofold' *cācapuṭa* (2 : 1 : 1 : 2) *kalā-s*: a *śamyā* should be rendered on the second (*kalā*), a *tāla* and a *śamyā* on the middle (two *kalā-s*), and a *sannipāta* on the final (*kalā*).[675]

---

[674] Datt. 131cd-32ab *ādyaṃ prakalpya niṣkrāmaṃ, dvitīyaṃ tu praveśanam* ǁ *sarveṣāṃ pādabhāgānāṃ, tataḥ pātān prakalpayet* ǀ

Dattila passes over *cañcatpuṭa* and moves on to *dvikala pañcapāṇi* (3 : 1 : 2 : 2 : 1 : 3). Dattila also presupposes a basis of silent gestures (*i.e.* twelve in this case and subdivided into six *pādabhāga-s* of two gestures each). He spells out the *kalā-s* onto which the corresponding *yathākṣara* beats are to be imprinted, *viz.* a *śamyā* on the fourth and eighth *kalā-s* and a *tāla* on the third, sixth and ninth *kalā-s*. Notably, Dattila does not mention *sannipāta* as the concluding beat on the twelfth (and final) *kalā*. But this is certainly implied when he adds that "the remaining (*śeṣaṃ*) [gestures as well as the concluding *sannipāta* should be supplied] as is appropriate (*yathocitam*) [in *dvikala* patterns]."[676] Dattila apparently refers to a general rule according to which a *sannipāta* always occurs at the end of an expanded pattern (*vastu*).[677]

6.6.2 Cheironomy in *catuṣkala*

The relatively detailed exposition of *dvikala* cheironomy, stands in stark contrast with the brief and elliptical 'treatment' of *catuṣkala*. The descriptive method of spelling out the *kalā-s*, beats and gestures, as in the case of *dvikala*, is abandoned, nor is it explained how they may be derived from the latter, except for a doubtful stanza at the end of *tāla* cheironomy (v. 56) where a vague direction is offered for how to derive the *catuṣkala* matrix of silent gestures from that of *dvikala*. Notably, this direction resembles the systematic derivative method applied by Dattila and Śārṅgadeva, who derive the neutral *catuṣkala* matrixes directly from the *dvikala* counterparts by augmenting its gestures (*i.e. niṣkrāma* and *praveśa*,) with *āvāpa* or *vikṣepa* respectively.

Nevertheless, the *catuṣkala* patterns may easily be reconstructed by comparing the numerous instances in the *tāla* chapter where they are profusely employed in compositions such as *gītaka-s*, *āsārita-s*, etc. However, we may ignore the tedious method of reconstruction, because the same result may be obtained when the relatively modern method is followed to derive *catuṣkala* directly from *dvikala*.

6.6.2.1 *Catuṣkala* matrixes of silent gestures

According to the method mentioned in v. 57, *catuṣkala* may be derived from *dvikala* through a procedure of augmentation. As in the case of *dvikala*, *catuṣkala* too is derived in two phases, *viz.* by first preparing a matrix of silent gestures and then imprinting the audible beats on it. This reconstruction does not pose particular difficulties because the *dvikala*, upon which the derivation of *catuṣkala* and its cheironomy are firmly based, has been described above in clear terms. As a matter of fact, the *dvikala* pattern runs very much parallel to that of the *catuṣkala* and accordingly both patterns have several characteristics in common.[678]

---

[675] Datt. 132 cd f. *śamyā dvitīyā kartavyā, tālaśamye tu madhyame, sannipāto 'vasāne ca, dvikalo 'yaṃ vidhiḥ smṛtaḥ.*

[676] Datt. 133 cd f. *pañcapāṇeś caturthī tu śamyā kāryā tathāṣṭamī, tṛtīyaṣaṣṭhanavamā(s) tālāḥ, śeṣaṃ yathocitam.*

[677] Cf. Datt. 160 cd *vastvante sannipātaś ca saptarūpavidhau sadā.*

In *catuṣkala* a fundamental matrix of silent gestures should also first be prepared and then the audible beats implanted on it according to the *yathākṣara* structure. For the reconstruction of the former we need to understand Bharata's brief statement on this matter:

> By inserting (*vyavadhāna*) with an *āvāpa* and a *vikṣepa* (respectively) the experts should know this (*eṣa*)[679] as the *catuṣkala* procedure that is marked with the [same] fingers as mentioned above [with respect to *dvikala*].[680]

This line suggests that the gestures in *catuṣkala* were derived from those of a *dvikala* pattern. That means that the typical series of *āvāpa-niṣkrāma-vikṣepa-praveśa* (cf. v. 174) is related to that of *niṣkrāma-praveśa*. The key word for understanding this relationship is *vyavadhāna*. Literally, it expresses the idea of 'intervention' or 'insertion'. Dattila echoes the same idea with the phrase *vinyasya madhye*.[681] In order to understand what is meant by the '*vyavadhāna* of *āvāpa* and a *vikṣepa*', one should recall that in *dvikala* the linkage of *niṣkrāma-praveśa* and in *catuṣkala* that of *āvāpa-niṣkrāma-vikṣepa-praveśa*, formed small units by means of which the respective patterns were built.[682] In our discussion of *dvikala*, we observed that a new technical term, viz. *pādabhāga* ('verse-part'/'foot-part'), was coined to denote these units. When it is assumed that the *pādabhāga* of four-*kalā-s* (*ā-ni-vi-pr*) derives from that of the *dvikala* (*ni-pr*), it follows that two gestures, *i.e.* *āvāpa* and a *vikṣepa*, have been added to the latter; a doubling of gestures was necessary because *catuṣkala* patterns are supposed to have twice the number of time-units and gestures as those of *dvikala*. When *āvāpa* and a *vikṣepa* are prefixed to *niṣkrāma* and *praveśa* respectively, one indeed obtains the *pādabhāga-s* of *catuṣkala*. The interpretation of *vyavadhāna* in the sense of 'insertion', thus fully supports the idea of expansion, because by prefixing each *dvikala* gesture with one more gesture, the *dvikala* pattern is doubled to its *catuṣkala* equivalent.[683] Expansion thus means that each *kalā* of a given pattern is doubled, and that each newly obtained *kalā* is placed 'first', that means, it is prefixed to the original *kalā*.[684]

Each pattern had a characteristic number of *pādabhāga-s*, viz. three in *cācapuṭa*, four in *cañcatpuṭa* and six in *pañcapāṇi*. This appeared to be a general rule applicable to all states of expansion. In other words, in accordance with the *tāla* type, a neutral *catuṣkala* matrix consisted of either three, four or six *pādabhāga-s* each made up of four gestures (*ā-ni-vi-pr*):

---

[678] The interested reader is therefore advised to run first through the preceding section on *dvikala*.

[679] The text only reads 'this' (*eṣa*) which we may interpret as a deictic reference to the *dvikala* state and its cheironomy treated in the preceding section.

[680] KSS v. 57 *eṣa tv āvāpavikṣepavyavadhānena paṇḍitaiḥ* |
vidhiś catuṣkalo jñeyaḥ prāguktāṅgulibhiḥ kṛtaḥ ||

[681] See below, n. 685.

[682] These series of silent gestures for the respective states of expansion are attested to by numerous examples throughout the *tāla* chapter, see e.g. vv. 47-57; 173-192; etc.

[683] Moreover, the idea of 'insertion' cannot explain the occurrence of an *āvāpa* at the beginning of a *catuṣkala* pattern because there is no gesture preceding it, after which the *āvāpa* could have been inserted, before the first *niṣkrāma*.

[684] Cf. GOS v. 235ab *viśleṣaṇe kalā yatra pūrvaṃ pūrvaṃ niveśayet.*

Table 39 The matrixes of silent gestures in *catuṣkala* arranged into *pādabhāga-s* of four *kalā-s*.

Cācapuṭa (2 : 1 : 1 : 2)

1	2	3	4	5	6	7	8	9	10	11	12
ā	*ni*	*vi*	*pr*	*ā*	*ni*	*vi*	*pr*	*ā*	*ni*	*vi*	*pr*

Cañcatpuṭa (2 : 2 : 1 : 3)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
ā	*ni*	*vi*	*pr*	*ā*	*ni*	*vi*	*pr*	*ā*	*ni*	*vi*	*pr*	*ā*	*ni*	*vi*	*pr*

Pañcapāṇi (3 : 1 : 2 : 2 : 1 : 3)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ā	*ni*	*vi*	*pr*	*ā*	*ni*	*vi*	*pr*	*ā*	*ni*	*vi*	*pr*	*ā*	*ni*	*vi*	*pr*	*ā*	*ni*	*vi*	*pr*	*ā*	*ni*	*vi*	*pr*

The method anticipated by Bharata, is fully expressed by Dattila, Śārṅgadeva and others. The derivation of the complete *catuṣkala* pattern directly from that of the *dvikala*, may be illustrated as follows in Dattila's words:

> By placing a *vikṣepa* in the middle, and an *āvāpa* in the beginning of all [*dvikala*] *pādabhāga-s* [*i.e. vi-pr-*], one prepares the *catuṣkala* (pattern).[685]

The *catuṣkala* pattern was thus also prepared by upgrading the *dvikala pādabhāga-s*. To the first gesture of each *dvikala pādabhāga* an *āvāpa* was prefixed and to the second a *vikṣepa*. What is made particularly clear by this method, is the way the expansion took place; each *pādabhāga* is systematically expanded to double its original measure - at the same time the entire pattern is doubled, whereas the general structure of the respective *tāla* (represented by the audible beats) is maintained. This procedure is illustrated below by the *cañcatpuṭa* pattern:

Cañcatpuṭa (2 : 2 : 1 : 3)

Yathākṣara				*śa*				*tā*		*śā*						*tā*
Dvikala matrix		*ni*		*pr*		*ni*		*pr*		*ni*		*pr*		*ni*		*pr*
Catuṣkala matrix	*ā*	*ni*	*vi*	*pr*	*ā*	*ni*	*vi*	*pr*	*ā*	*ni*	*vi*	*pr*	*ā*	*ni*	*vi*	*pr*
Catuṣkala pattern	*ā*	*ni*	*vi*	*śa*	*ā*	*ni*	*vi*	*tā*	*ā*	*śa*	*vi*	*pr*	*ā*	*ni*	*vi*	*Saṃ*

6.6.2.2 *Yathākṣara* imprint on *catuṣkala* matrixes

As in the case of *dvikala*, the audible beats in *catuṣkala* were similarly firmly embedded on the matrix of silent gestures according to the typical structure of a *yathākṣara* pattern. In this process certain silent gestures were eliminated because of the superimposition of the beats from the *yathākṣara*:

Table 40 The *catuṣkala* patterns for the three main *tāla-s*.

---

[685] Datt. 134 cd f. *vinyasya madhye vikṣepaṃ ādāv āvāpam eva ca* II *sarveṣāṃ pādabhāgānaṃ prayuñjīta catuṣkalam*. Cf. SR 5, 31 cd f. *ādāv adhika āvāpe kṣipte vikṣepake 'ntarā* (See further Kalānidhi and Sudhākara pp. 19 f.).

Cācaputa (2 : 1 : 1 : 2)

Kalā-s	1	2	3	4	5	6	7	8	9	10	11	12
Yathākṣara beats				*śa*		*tā*		*śā*				*tā*
Silent gestures	*ā*	*ni*	*vi*	*pr*	*ā*	*ni*	*vi*	*pr*	*ā*	*ni*	*vi*	*pr*
Catuṣkala pattern	*ā*	*ni*	*vi*	*śa*	*ā*	*tā*	*vi*	*śā*	*ā*	*ni*	*vi*	*Saṃ*
Ratio	2				1		1		2			

Cañcatpuṭa (2 : 2 : 1 : 3)

Kalā-s	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Yathākṣara beats				*śa*				*tā*		*śa*						*tā*
Silent gestures	*ā*	*ni*	*vi*	*pr*	*ā*	*ni*	*vi*	*pr*	*ā*	*ni*	*vi*	*pr*	*ā*	*ni*	*vi*	*pr*
Catuṣkala pattern	*ā*	*ni*	*vi*	*śa*	*ā*	*ni*	*vi*	*tā*	*ā*	*śa*	*vi*	*pr*	*ā*	*ni*	*vi*	*Saṃ*
Ratio	2				2				1		3					

Pañcapāṇi (3 : 1 : 2 : 2 : 1 : 3)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
					tā		*śa*				*tā*				*śa*		*tā*						*śa*
ā	*ni*	*vi*	*pr*	*ā*	*ni*	*vi*	*pr*	*ā*	*ni*	*vi*	*pr*	*ā*	*ni*	*vi*	*pr*	*ā*	*ni*	*vi*	*pr*	*ā*	*ni*	*vi*	*pr*
ā	*ni*	*vi*	*pr*	*ā*	*tā*	*vi*	*śa*	*ā*	*ni*	*vi*	*tā*	*ā*	*ni*	*vi*	*śa*	*ā*	*tā*	*vi*	*pr*	*ā*	*ni*	*vi*	*Saṃ*
3						1		2				2				1		3					

Here the numbers 1, 2 or 3 occurring in the ratios correspond with the relative duration of the beats as well as the additional marking with silent gestures. The beats with number 1 have durations of 2 *kalā-s* and are preceded by 1 silent gesture; those with the number 2 have four *kalā-s* and three augments; whereas those with the number 3 have 6 *kalā-s* and five augments. In this way, the first two beats of *catuṣkala cañcatpuṭa* are preceded by three gestures each (*i.e. ā-ni-vi-*), the third by one gesture (*i.e. āvāpa*), and the fourth by five (*i.e. vi-pr-ā-ni-vi-*).

The relationship between ratio, time and gestures, as described above, applies to all *tāla-s*, however, with the difference that the kind of gesture is not necessarily the same. A notable point of agreement is that number 2 in all *tāla* ratios happens to have the same number and order of gestures, viz. *ā-ni-vi-*. But the gestures corresponding to number 3 differ slightly. In *pañcapāṇi* the first and last beats have the number 3, of which the last one has the same addition as the last beat of *cañcatpuṭa* (*i.e. vi-pr-ā-ni-vi-*), but that of the first one is different, namely with a slightly altered order (*i.e. ā-ni-vi-pr-ā-*).

6.6.3 The System of 'Fingering' (*aṅguliviksepa*)[686]

6.6.3.1. Introduction

Along with the standard mode of *tāla*-cheironomy that was characterised by the application of silent and audible gestures with the hand, arm, and fingers, Bharata also describes a somewhat puzzling extension that was employed merely to mark certain silent gestures and exclusively with the fingers of the hand. From here onwards I shall refer to this expansion to the cheironomic system as 'fingering' because only the fingers were involved in its description. This method was evidently fully integrated into both states of *tāla* expansion.

---

[686] *Aṅguliniyama* 'rules of fingering' in Datt. and SR.

Aside from the general directions to employ certain fingers to mark certain gestures, little is known about this fascinating mode of *tāla*-cheironomy. In fact, we do not know how and why it was used. Were the respective fingers contracted or spread out to mark the related gesture? Were they contracted or spread one by one, or progressively including the preceding finger(s)? How were the original set of gestures with the hand combined or correlated with that of the finger? Were both sets of gestures performed with one and the same hand or with different hands? At this point, these questions can hardly be answered convincingly and the related descriptions in the section on the *āsārita-s* are also not very enlightening.[687]

However, the method of fingering was certainly employed in the *āsārita-s* and therefore probably also in the *vardhamāna-s*, because the latter was structurally dependent on the former. It is not clear whether it was also used in the *gītaka-s*, though later Śārṅgadeva reports that "according to the wise the fingers in the *madraka* song were to be employed in a similar way as in *cañcatpuṭa tāla*."[688]

Moreover, since this method appears to have been treated differently in subsequent periods, I have also compared the parallel passages from the Datt. and the SR.

6.6.3.2 Fingering in *dvikala*

While dealing with the *dvikala* states of the three major *tāla-s*, Bharata also offers a full account of the method of fingering (see vv. 47-56). A reconstruction of that account is presented below by means of the *dvikala* tables. In order to display the respective fingers I have used the initial letters 'l', 'r', 'm', and 'i' of the English words as abbreviations for the 'little', 'ring', 'middle' and 'index' fingers respectively.

Table 41 The method of fingering in *dvikala* patterns in the NŚ.

Cācapuṭa

Kalā-s	1	2	3	4	5	6
Gestures	*ni*	*śa*	*tā*	*śa*	*ni*	*saṃ*
Fingering	*l*				*i*	

Cañcatpuṭa

Kalā-s	1	2	3	4	5	6	7	8
Gestures	*ni*	*śa*	*ni*	*tā*	*śa*	*pr*	*ni*	*saṃ*
Fingering	*l*		*l/r*			*m*	*i*	

Pañcapāṇi

Kalā-s	1	2	3	4	5	6	7	8	9	10	11	12
Gestures	*ni*	*pr*	*tā*	*śa*	*ni*	*tā*	*ni*	*śa*	*tā*	*pr*	*ni*	*saṃ*
Fingering	*l*	*l/r*			*m*		*i*			*l*	*i*	

---

[687] As for the system of fingering in the 'medium' *āsārita* the author suffices by referring back to the description in vv. 48-56 (see KSS 31, 172), whereas the description in the section on the 'long' *āsārita* (vv. 173-92) is too lacunal and confused to offer useful data.

[688] SR 5, 84ab *caccatpuṭavad aṅgulyaḥ kartavyāḥ madrake budhaiḥ*. For a detailed discussion see Kallinātha's comments on SR 5, 84ab, Kalānidhi pp. 50 f. See also S. Rāja 2, 4, 1, 100 cd.

A number of characteristics may be extracted from the tables above. First of all, only silent gestures are marked with fingers, whereas audible gestures (*pāta*) did not require further demarcation, apparently because they were already marked clearly with an audible stroke with the full hand.[689] Second, since both *niṣkrāma* and *praveśa* were marked, it follows that all silent gestures in *dvikala* were marked.[690] Third, all silent gestures are in fact marked with only one finger, except the second in *pañcapāṇi* and the third in *cañcatpuṭa*; in both cases the finger used for marking the preceding gesture, is retained to mark the following one. In other words, the little and ring fingers are used in combination (l + r). Fourth, the initial as well as the penultimate gestures are *niṣkrāma-s* in all three *tāla-s*, and are consistently marked with the little and index fingers respectively. Fifth, the remaining two fingers (*i.e.* r and m), which occupy a middle position in *cañcatpuṭa*, are not used in *cācapuṭa*, but are retained in *pañcapāṇi*. Sixth, the order of employing the fingers, (*viz.*, l, r, m, i), may indicate a natural, or physiologically convenient sequence. Abhinavagupta corroborates this view by referring to the maxim that "smaller (fingers) occur first in counting, (both) in common (as well as) scriptural usages."[691] Seventh, the pattern of fingering in *pañcapāṇi* appears to consist of a combination of those of *cañcatpuṭa* (*i.e.* l, l/r, m and I) and *cācapuṭa* (*i.e.* l and i).[692] Abhinavagupta reinforces the idea that the little finger should again occur first, *i.e.* on the fifth position, when the first four *kalā-s* (or *pādabhāga-s*) have been marked with the little finger, etc.[693]

So far it appears that the fingering from *cañcatpuṭa* has served as a model for shaping those of the other two *tāla-s*, and that its initial and final fingerings (*i.e.* l and i) were considered as the most important fingers in this system, because (1) they alone were retained in *cācapuṭa* and not the the middlemost fingers (*i.e.* r and m); and (2) in *pañcapāṇi* they alone were added in surplus to the 'standard' four from *cañcatpuṭa*.

6.6.3.3 Dattila on fingering

We may now consider in which respect Bharata's system differs from those of later authors. First of all, Bharata integrated the discussion on fingering into that of the *dvikala* state of expansion. In his characteristic beat by beat account he specifies for each *kalā* whether it carries a beat or a silent gesture, and in the case of the latter, also details about the application fingering. Dattila and Śārṅgadeva, however, come to it after completing their discussions on the expanded states. Moreover, the system as described by these two authors shows significant divergences from that of Bharata.

The related passage from the Dattilam is very corrupt and requires appropiate emendations before it can be interpreted properly:

---

[689] This is perhaps what is meant in SR 5, 36ab, text follows below.

[690] Our following discussion will show that this rule also applies in *catuṣkala*, because the remaining gestures (viz. *āvāpa* and *vikṣepa*) appear to be left unmarked there.

[691] A.Bhā. on NŚ 31, 40-50 (Vol. IV), p. 177. 13 *kanīyasī hi prathamā loke gaṇanāyāṣ ve(vai)dike* [....]

[692] Does this tell something about the origin of *pañcapāṇi tāla*? Normally, a combination of the fingerings of *caturaśra* and *tryaśra tāla-s* would be ruled out for genealogical reasons (Datt. 127cd-30a), but since no other explanation is available it will be accepted until a better solution is suggested.

[693] See A.Bhā. p. 178. 3f. *punaḥ punaḥ prāthamyāt pañcame kanīyasy evāṅgulyantarābhāvāt pratiṣṭheti.*

Datt. 135 cd	[694]ādyadvitīyamadhyāntyāt pādabhāgāt viduḥ kramāt	ādya dvitīyamādyāntāt pādabhāgād in T. edn. {ādyadvitīya° E. te Nijenhuis ādyadiytīya° Lath 1978 (misprint)} ādyadvitīyamadhyāntytān pādabhāgān Lath 1988
Datt. 136	[695]kaniṣṭhānāmikāyuktā madhyamādeśinīkṛtāḥ[696]	+ + + + mikā yuktā madhyamād deśinīgatān T. edn./E. te Nijenhuis kaniṣṭhānāmikā-yuktān madhyamādeśinīgatān Lath 1988
	[697]ayugmaṃ madhyahīnaṃ syād, ādyāntyādhika uttaraḥ	ayu + + + hīnaṃ T. edn. *ayu[gma madhya] hīnaṃ syād* or *ayu[g madhyama]hīnaṃ syād*. sugg. by E. te Nijenhuis (p. 349)/Lath; ādyāntā + ka T. edn. ādyāntādika E. te Nijenhuis ādyāntyādhika Lath
Datt. 137	[698]niṣkrāmaś ca praveśaś ca dvikale parikīrtitau	
	[699]evaṃ [700]kālādi yoktavyaṃ, viśeṣo yatra nocyate	kālādi T. edn./ E. te Nijenhuis kalādi Lath 1978

<135cd> [As for *cañcatpuṭa tāla* the experts] know[701] [the silent gestures] *from* the first, the second, the third [*madhya*, lit. 'middle'] and the last *pādabhāga-s*, <136> as marked with the little, ring, middle and index fingers respectively.

---

[694] Emendations are based on Lath's conjectures; *°antya* (also in Datt. v. 136d) allows one at least to construe the adjectival sense 'last' out of *°anta* 'end'. The passage under discussion is quoted in the A.Bhā. on NŚ (GOS edn.) 4, 315 as follows: ***dattilācāryeṇa saṃkṣipyoktam etat*** *"ādyadvitīyamadhyāntāt pādabhāgād viduḥ kramāt | kaniṣṭhānāmikāyukto madhyamā-deśinīkṛtāt || "ayugmamadhyahīnaḥ syāt" iti*, and with some minor changes on NŚ 31, 40-50, p. 178 ll. 5-11: *tad uktaṃ dattilācāryeṇa "ādyā dvitīyamādyantāt pādabhāga(gā)d viduḥ kramāt | kaniṣṭhānāmikāya(yu)ktamadhyamād deśinīkṛtān | ayaṃ madhyahīnaḥ syāt, ādyāntādhika uttaraḥ" iti*. Abhinavagupta adds two line of comments to the second quotation: ***vidur iti, kramād iti, syād iti,*** *pādair evāntimatvaṃ sūcitam | yatra tu pātopapādatvena gacchati, tatra sāṅgulir vyajyate.*

[695] Reconstruction based on two quotations in the A.Bhā. (see preceding note).

[696] The accusative *°deśinīgatān* requires to be emendated to a nominative (pl. masc.) *°deśinīgatāḥ* to agree with the preceding verbal adjective *°yuktā(ḥ)*. The acc. pl. masc. *°deśinīgatān* (T. edn.) could be emendated to either a nom. pl. fem. (*°deśinīgatāḥ*) in order to match with the preceding verbal adj. *°yuktā(ḥ)*, or an ablative to conform to the two ablatives in the first line (see the first quotation in the A.Bhā., see above, n. 694). We opt for the former, because the elliptical object is apparently *kalāḥ* (f. nom. pl.), i.e. the 'silent gestures'.

[697] The full text is again obtained from the A.Bhā., however, the neuter ending *-hīnaṃ* in the T. edn. has been used to restore a neuter nom. *ayugmaṃ*.

[698] This line - seemingly not in its proper place here - is identical to NŚ [KSS/BI edns.] 31, 37ab. In this light, it would be surprising if it turned out to be an interpolation from the NŚ. Lath (1988, 29) tries to restore the coherence by transposing its translation to the beginning of the section, i.e. immediately after v. 135ab. This attempt does not seem inappropriate as far as the coherence of exposition is concerned.

[699] Compare this line with SR 5, 35cd-36ab.

[700] *Kālādi* (T. edn.), according to Lath (1988, 57), is perhaps a slip in printing *kalādi*.

[701] *Viduḥ*, i.e. the perfect (3 pl.) form of the verb *vid* 'to know', has obviously been used with the intention to stress on the one hand that the practice of fingering was already known in the past by Bharata and others, but on the other hand that it is still known by contemporary experts like Dattila, etc. On this meaning of the perfect see, for example, Macdonell 1916, § 139, 3 and 213 A.

> The *ayugma* [= *cācapuṭa tāla*] should have [the same fingering as *cañcatpuṭa*, however,] without the middle [two] fingers,[702] [whereas] the *uttara* [= *pañcapāṇi* or *ṣaṭpitāputraka*] has the little (lit. 'first') and index (lit. 'last') fingers in addition.[703]
>
> <137> "In *dvikala* [both] *niṣkrāma* and *praveśa* are known [to be marked]. Thus should [the aspect of] time, etc.,[704] be observed where no specific direction [regarding the application of beats] is stated.

Dattila once again demonstrates his genius in compressing Bharata's relatively long expositions into just a few lines. In this process he even suppresses a direct reference to the silent gestures (*kalā*) in the present passage on fingering, at least in the first three lines, and thereby compromises his own position.[705] Although they evidently constitute the object of the first two lines, they are mentioned only in v. 137.

As interpreted above, Dattila does not differ much from the rules laid down by Bharata. Only with respect to *cācapuṭa* do we need to interpret the text in such a way that its two gestures are matched with two corresponding fingers (see above, n. 702).

We may now consider the interpretation of some modern scholars, who, obviously following Śārṅgadeva, consider the *pādabhāga-s* as the object of marking,[706] and not the silent gestures as indicated by Bharata. In an attempt to meet the demand for a grammatical object, E. te Nijenhuis (p. 348) emendates the two ablatives into accusatives and suggests reading *ādyadvitīyamādhyāntān pādabhāgān*. Lath too agrees to alter the text so as "to conform to the intended sense and the *deśinīgatān* of the next line" (1988, 28; 57). Against this background, the passage from the Dattilam could be interpreted and displayed as follows:

> <135cd> [In *cañcatpuṭa* the wise] know the first, the second, the third and the last *pādabhāga-s*
> <135cd> to be marked with the little, ring, middle and index fingers respectively.

---

[702] Bharata's *dvikala* pattern of *cācapuṭa* has only two silent gestures, *viz.* one on the first *kalā* and the other on the penultimate. When the word *madhyahīnaṃ* is understood as meaning 'without the middle finger', it follows that *cācapuṭa* is marked with three fingers. This implies that the two silent gestures of *cācapuṭa* are marked with the little, ring and index fingers respectively. The problem now arises as to how two gestures should be marked with the three fingers as sanctioned by Dattila, while one finger seems to be redundant according to Bharata's system. However, when the compound °*madhyahīnaṃ* is interpreted as meaning 'without the middle[most] fingers' or 'without the middle [two] fingers', it follows that the middle as well as the adjacent ring-finger should be left out. This leaves only the little and the index fingers to mark the two respective gestures in *cācapuṭa*.

[703] Even though *pañcapāṇi* belongs to the general class of 'odd' *tāla-s*, it still retains the middlemost fingers [i.e. ring and middle], very much against the explicit prohibition stated above in v. 136 cd, lest this prohibition only applies to *cācapuṭa*.

[704] The particle *ādi* here obviously refers to the accompanying method of 'fingering' when the preceding word is read as *kalā* (see above, n. 700). Because if *kalā* stands for silent gestures, then *-ādi* could be referring to the audible beats, the fingerings, etc. From this point of view, the final line could be interpreted as winding up the whole section on cheironomy. It could also be taken as summarizing that silent gestures, audible beats and fingerings should be applied universally, except when there is a specific provision prohibiting doing so. In this regard v. 137cd does not necessarily need to be connected with the preceding verse, whose isolation thus becomes even more evident (cf. above n. 698). E. te Nijenhuis (1970, 41) perhaps therefore relates this line to the following one.

[705] On first reading, the first line seems to lack a grammatical object. The two ablatives there indicate that some other entity than the *pādabhāga-s* is the object of the verb *viduḥ*. Since an object seems to be required, it is evidently elliptical. The only eligible entity that may be considered, are the silent gestures; at least in Bharata's system they were the unmistakable object of fingering.

[706] Cf. E. te Nijenhuis 1970, 41 and Lath 1988, 29.

In *ayugma* [= *cācapuṭa tāla*] [the three *pādabhāga-s*] should have [the same fingering as in *cañcatpuṭa*, however,] without the middle [two] fingers, [whereas in] the *uttara* [= *pañcapāṇi*] [the six *pādabhāga-s* have the fingering of *cañcatpuṭa*] plus the little and index fingers.

<137> [The gestures] *niṣkrāma* and *praveśa* are prescribed in *dvikala* [*pādabhāga-s*]. Thus should [the aspect of] time, etc., be observed where no specific direction [regarding the application of beats] is stated.

Table 42 Dattila's method of fingering.

Cañcatpuṭa

Kalā-s	1	2	3	4	5	6	7	8
Gestures (2 : 2 : 1 : 3)	*ni*	*śa*	*ni*	*tā*	*śa*	*pr*	*ni*	*saṃ*
Pādabhāga-fingering	*l*		*r*			*m*	*i*	

Cācapuṭa

Kalā-s	1	2	3	4	5	6
Gestures (2 : 1 : 1 : 2)	*ni*	*śa*	*tā*	*śa*	*ni*	*saṃ*
Pādabhāga-fingering	*l*		▨	▨	*i*	

Pañcapāṇi

Kalā-s	1	2	3	4	5	6	7	8	9	10	11	12
Gestures (3 : 1 2 : 2 : 1 : 3)	*ni*	*pr*	*tā*	*śa*	*ni*	*tā*	*ni*	*śa*	*tā*	*pr*	*ni*	*saṃ*
Pādabhāga-fingering	*l*	*r*	▨	▨	*m*		*i*			*l*	*i*	

In this light each *pādabhāga* of *cañcatpuṭa* is indeed marked with a finger, because (according to Bharata's method) they happen to have a silent gesture (either a *niṣkrāma* or a *praveśā*). However, in the two other *tāla-s* the second *pādabhāga-s* (shaded in the tables above) have no 'finger-marks' obviously because the required silent gestures are wanting there. The fact that at least one *pādabhāga* in two important *tāla-s* is not marked, invalidates the interpretation suggested above by E. te Nijenhuis and Lath.

Thus far, we have interpreted Dattila's passage on fingering, more or less against the method propagated by Bharata. However, when we interpret the text slightly more independently, there seems to emerge what may indeed be referred to as a *pādabhāga*-wise method of fingering.

As observed above, all four *pādabhāga-s* of *cañcatpuṭa* appear to be marked with their respective fingers. The same procedure is applied to *cācapuṭa*, with the exclusion of the middle finger. This means that all three *pādabhāga-s* could be marked with the little, ring and index fingers respectively. Finally, in *pañcapāṇi* the first four *pādabhāga-s* were marked in the same way as *cañcatpuṭa*, and the remaining two *pādabhāga-s* with the little and index fingers respectively. The tables below show that this interpretation is consistent because each *pādabhāga* is (made to be) marked with one finger:

Table 43 Method of fingering of *pādabhāga-s* - hypothetically attributed to Dattila.

Cañcatpuṭa

Kalā-s	1	2	3	4	5	6	7	8
Gestures (2 : 2 : 1 : 3)	*ni*	*śa*	*ni*	*tā*	*śa*	*pr*	*ni*	*saṃ*
Pādabhāga-fingering	*l*		*r*		*m*		*i*	

Cācapuṭa

Kalā-s	1	2	3	4	5	6
Gestures (2 : 1 : 1 : 2)	*ni*	*śa*	*tā*	*śa*	*ni*	*saṃ*
Pādabhāga-fingering	*l*		*r*		*i*	

Pañcapāṇi

Kalā-s	1	2	3	4	5	6	7	8	9	10	11	12
Gestures (3 : 1 2 : 2 : 1 : 3)	*ni*	*pr*	*tā*	*śa*	*ni*	*tā*	*ni*	*śa*	*tā*	*pr*	*ni*	*saṃ*
Pādabhāga-fingering	*l*		*r*		*m*		*i*		*l*		*i*	

6.6.4 Purpose of fingering

We may now examine whether this hypothetical method attributed to Dattila served some particular purpose. From a musicological as well as a teleological point of view, we may assume that Bharata's cheironomic system, as well its extension with the method of fingering, could not have been meaningless, but served some practical purpose, though admittedly there is little direct evidence to prove this point. The alternative interpretation of Dattila's text above indicates that perhaps neither the silent gestures nor the audible beats were marked, but only the *pādabhāga-s*. In this case, fingering probably served the purpose of marking or measuring time at regular points demarcated by the measure of *pādabhāga-s*. The validity of this assumption has serious implications for our perception of the function of *tāla* cheironomy and the method of fingering, because the audible beats and silent gestures of a *tāla* pattern could undoubtedly be interpreted as constituting a method for structuring and therefore also of measuring a performance, whereas the employment of fingers constitutes an additional and practical method of measuring time by way of marking the patterns at regular intervals or *pādabhāga-s*.

6.6.5 *Tāla* cheironomy related to Vedic cheironomy

Abhinavagupta usually relates *tāla*, and in that respect also the system of cheironomy, to musical evenness (*sāmya*) as well as an evenness of mind that is conducive to musico-aesthetic experience, because like the cymbals and drums, *tāla* cheironomy too contributes to structuring the performance and in that respect facilitates achieving this goal. On the other hand, at least the element of fingering appears to be related to a higher and perhaps spiritual aim, which could be obtained only in a world yonder.[707] First of all, the solemn and almost ritualistic manual movements of *tāla* cheironomy are reminiscent of the ritualistic gestures in Sāmavedic cheironomy (*mudrā*), where, in compliance with popular belief in the efficacy of religious rites, each 'action' finds its retribute either in this or the world yonder by means of

---

[707] On the notion of *sāmya* see below, § 6.4.

adṛṣṭa or *apūrva*, an unseen force derived from the works or acts of a previous world.[708] Even though a direct relationship with Sāmavedic practices of cheironomy could not be shown,[709] Abhinavagupta ascribes the retributive aspect of the latter to the actions of *tāla* cheironomy. In order to do so, he merely ascribes the rigidity and precision of action inherent in Vedic ritual and recitation to *tāla* cheironomy.

There is at least one instance in the Abhinavabhāratī where Abhinavagupta clearly relates the practice of *tāla* fingering to Vedic *mudrā-s* and their capacity to produce 'unique unseen merit'.

Vindicating why the third 'foot-part' (*pādabhāga*) of uneven patterns is said to be marked with the index finger, and not with the middle finger as would be expected according to the 'normal' sequence of fingerings followed in even patterns, Abhinavagupta takes recourse to the theory of 'unique or unseen merit' (*adṛṣṭaphala*) and explains that: "[as prescribed by Bharata] only the index finger has to be applied [there] because it has the capability to produce 'unseen' (results), whereas the [the application of the] middle finger should be dropped."[710]

6.6.6 Śārṅgadeva on fingering

With respect to what is actually marked with the fingers, *viz.* the silent gestures (as propagated by Bharata) or the *pādabhāga-s* (as perhaps propagated by Dattila) - Śārṅgadeva seems to synthesize both views on fingering and propagates that *kalā*, the temporal duration, of the *pādabhāga-s* should be marked. As regards the number of fingers involved in marking successive gestures, Śārṅgadeva also differs radically from his predecessors.

SR 32cd *prathame pādabhāge syāt kalāṅgulyā kaniṣṭhayā*
SR 33 *tayā cānāmayānyatra, tābhyāṃ madhyamayā tathā*
tṛtīye syāc, catasṛbhis turye caccatpuṭasya tu
SR 34 *ojasya pādabhāgeṣu kalā madhyāṅgulīṃ vinā*
pañcapāṇeḥ kaniṣṭhādicatuṣkeṇa, kaniṣṭhayā
SR 35ab *tarjanyā ca pṛthak pādabhāgaṣaṭke kramāt kalāḥ*

> <SR 32cd> The *kalā* (measures of time) in the first *pādabhāga* of *cañcatpuṭa* should be marked with the little finger; <SR 33> in the second [lit. 'other' *pādabhāga*, they are marked] with the former (*tayā*) plus the ring finger (*anāmā*); in the third (*pādabhāga*) with the former two and the middle finger; and in the fourth (*pādabhāga*) with (all) four (fingers).
>
> <SR 34> The *kalā-s* in the [three] *pādabhāga-s* of the 'odd' [*tāla* = *cācapuṭa*], [should be marked like those in the 'even' *tāla*, however,] without the middle finger.[711]

---

[708] See below, n. 726. See also J. Gonda, *Die Religionen Indiens*, Vol. I, Kohlhammer, Stuttgart ^{2}1978, 105

[709] Despite the fact that tradition, beginning with the NŚ itself, proclaims that singing (*gīta*) has originated from Sāma(veda) (GOS 1, 17 *jagrāha ... sāmabhyo gītam...*). See also my forthcoming paper on 'Cheironomy in Indian Arts'.

[710] A.Bhā. on NŚ 31, 40-50 (Vol. IV), p. 178. 10 *adṛṣṭasāmarthyāt tarjanyeva gṛhyate, madhyamā tu tyajyate.*

[711] Siṃhabhūpāla explains that the *kalā* in the first *pādabhāga* is marked with the little-finger; in the second with the little and ring-fingers; and in the third with the little, ring and index-fingers.

<SR35ab> The *kalā-s* in the six *pādabhāga-s* of *pañcapāṇi* [are marked] one by one (*pṛthak*) (and) in regular order with the four [*cañcatpuṭa*] fingers beginning with the little finger, etc., (plus) the little and ring fingers.[712]

First of all, Śārṅgadeva appears to have noticed the discrepancy between Bharata's and Dattila's methods of fingering, especially with respect to the second *pādabhāga* of *cācapuṭa* and *pañcapāṇi*. According to Bharata there is no room for fingering there because all *kalā-s* have audible beats, whereas according to Dattila this restriction plays no role in marking these *pādabhāga-s*. Śārṅgadeva even tried to remedy the discrepancy by instructing that "when a *pādabhāga* is (fully occupied by) beats, the *kalā-s* (there) are not marked with the fingers."[713] With this solution Śārṅgadeva dexterously corroborates, on the one hand, Bharata's method that does not consider the *pādabhāga-s*, but only the silent gestures, and on the other, Dattila's method by accepting a division of time, *i.e. pādabhāga* or *kalā* as the object of marking.

Following Dattila, Śārṅgadeva too departs from the *pādabhāga-s*, but differs from him by not explicitily marking the *pādabhāga-s*, but the measure of time (*kalā*) constituting them.[714]

In this respect the difference from Dattila is thus mainly a matter of nuance. One may assume that Dattila too must have had the same idea in mind when marking the *pādabhāga-s*. (For illustrating Śārṅgadeva's system it therefore suffices to refer to the preceding table above). Śārṅgadeva did not bother whether silent gestures, audible beats or the *pādabhāga-s* were to be marked; he simply mentioned the span of time covered by a *pādabhāga*.

This is significant, because the marking of the *pādabhāga-s* with consecutive fingers seems to serve a practical purpose, *viz.* that of measuring time. The purpose of the method of fingering is therefore perhaps less mystical or ritualistic than suggested by Abhinavagupta and others.[715] Kallinātha may be right when he interprets the rules for fingering as serving the purpose of discriminating the divisions of *tāla* measures into *pādabhāga-s*.[716] Some forms of this ancient practice seem to have survived in contemporary classical Indian music, where the measures of musical time are divided into *vi-bhāga-s* (the equivalents of the ancient *pādabhāga-s*), which are counted with the fingers in nearly the same way as described by Dattila and Śārṅgadeva.

As regards the number of fingers involved in marking the *pādabhāga-s*, Śārṅgadeva also differs from his predecessors. In *cañcatpuṭa* we saw that Bharata marked the four successive silent gestures with the four consecutive fingers respectively; that means, the first gesture with the little finger, the second with the ring finger, the third with the middle finger and the fourth with the index finger. However, only the 2nd *kalā* was marked along with its preceding finger (*i.e.* the ring finger). Although it is evident that the 2nd *kalā* was marked with the ring finger, one wonders why the finger of the preceding *kalā* should be included. From a physiological point of view one can hardly escape the impression that perhaps all successive *kalā-s* were supposed to be marked with their respective fingers *plus* the preceding fingers. Datt., on the other hand, offers clarity by assigning only one finger per *kalā*. The SR thus seems to reconcile these two methods by consistently adding the finger(s) of the preceding *kalā* to the succeeding *kalā*. That means that the 1st *kalā* is marked with one finger (*i.e.* l), whereas the 2nd with two (*i.e.* l+r), the 3rd with three (*i.e.* l+r+m), and the 4th with all four (*i.e.* l+r+m+i). Śārṅgadeva may have arrived at this synthesis perhaps from actually observing the physiology of the fingers of the hand. One can easily demonstrate for oneself that the curling or straightening of any of the four fingers has a similar effect on the adjacent finger(s). For, if the fingers are contracted one by one, beginning with the little finger, the preceding finger(s) remain(s) closed when the following one is contracted, and *vice versa* when the fingers are straightened.

---

[712] Siṃhabhūpāla (on SR 5, 32-34, p. 21) spells out as follows: "[the *kalā*] in the first *pādabhāga* is indicated with the little finger; with the little and ring fingers in the second; with the little, ring and index fingers in the third; with all four in the fourth; with the little finger in the fifth and with the index finger in the sixth."

[713] SR 5, 36ab *pātayukte pādabhāge nāṅgulyā kriyate kalā* ['Ra' Vipulā ; cf. Datt. 137 cd.]

[714] Given this similarity between the two systems, one is tempted to assume that Dattila's system lies at the basis of that of Śārṅgadeva.

[715] See further Lath 1988, 149 who also quotes Abhinavagupta.

[716] Kalānidhi p. 20 *pādabhāgabhedaparijñānārtham aṅguliniyamam*.

These considerations lead one to conclude that the apparent dissonance between the systems of fingering described in the NŚ, Datt. and the SR disappears, when the problem is approached from a practical angle. Whatever the case, Bharata's system should be taken as original, because it is very specific and leaves no room for much doubt regarding the number and order of fingers involved in any of the fingerings. The later systems, so far as they deviate from that of the NŚ, do so mainly on details of physiology of the fingers and hand.

6.6.7 Fingering in *catuṣkal*

Unlike in *dvikala*, practically no attention is paid to the method of fingering in *catuṣkala*. The author laconically states that the *catuṣkala* procedure 'was marked with the fingers as mentioned above' (v. 57cd). This means that the *dvikala* method of fingering - described in the preceding section - largely applies to the *catuṣkala* state. Does the fact that in *dvikala* all silent gestures (*i.e. ni-pr*) were marked with the fingers, imply that in *catuṣkala* also all silent gestures (*i.e. ā-ni-vi-pr*) should be marked? It seems quite evident that at least the two typical silent gestures from *dvikala* (viz. *niṣkrāma* and *praveśa*) should be marked, and presumably with the same fingers as in *dvikala*; but what about the two remaining gestures typical to *catuṣkala* (viz. *āvāpa* and *praveśa*)? Should they also be marked or left unmarked? If no, there is no problem, but if yes, the question arises, by which fingers?

To answer these questions as well as to reconstruct the fingering in *catuṣkala*, we may perhaps rely on the section dealing with the 'long' *āsārita* (vv. 173-92) - the only place where the *catuṣkala* procedure of fingering has been described for the *cañcatpuṭa* and *pañcapāṇi tāla-s*. One should, however, be cautioned that the description there is largely lacunal and confused. For a discussion of the textual problems the reader is referred to the text and translation. A comparison of both sections shows that even though there are still several points that need further clarification, the following two conclusions may be drawn: (1) In *catuṣkala* the same gestures are marked as in *dvikala*, viz. *niṣkrāma* and *praveśa*; this means that *āvāpa* and *praveśa* are not marked; and (2) in *catuṣkala* the same pattern of fingering is observed as in *dvikala*.

From these conclusions we may reconstruct the *catuṣkala* procedure of fingering analogously to that of the *dvikala* as displayed below. Even though the *catuṣkala* method of fingering of *cācapuṭa tāla* has not been outlined, it can be reconstructed on the basis of its *dvikala* fingering. That means that the two *niṣkrāma* gestures (on the second and tenth *kalā-s*) should be marked with the little and index fingers respectively.

Table 44 Reconstruction of fingering in *catuṣkala*

Cācapuṭa (2 : 1 : 1 : 2)

1	2	3	4	5	6	7	8	9	10	11	12
ā	*ni*	*vi*	*śa*	*ā*	*tā*	*vi*	*śa*	*ā*	*ni*	*vi*	*Saṃ*
	l								*i*		

Cañcatpuṭa (2 : 2 : 1 : 3)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
ā	*ni*	*vi*	*śa*	*ā*	*ni*	*vi*	*tā*	*ā*	*sa*	*vi*	*pr*	*ā*	*ni*	*vi*	*Saṃ*
	l				*l/r*						*m*		*i*		

Pañcapāṇi (3 : 1 : 2 : 2 : 1 : 3)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ā	*ni*	*vi*	*pr*	*ā*	*tā*	*vi*	*śa*	*ā*	*ni*	*vi*	*tā*	*ā*	*ni*	*vi*	*śa*	*ā*	*tā*	*vi*	*pr*	*ā*	*ni*	*vi*	*Saṃ*
	l		*l/r*						*m*				*i*						*l*		*i*		

6.6.8 Some problems

Later on Śārṅgadeva seems to make an attempt to answer the question of whether *āvāpa* and *vikṣepa* in *catuṣkala* were marked or not. The answer seems to be negative, because according to him "they should be performed with the (same) hand as that of the following beat (*bhāvipāta*)".[717] In the expanded states, audible gestures usually occur after the silent gestures. Since the former type of gestures is subsequent to the latter, it is conceivable that it is called *bhāvin* in relation to the latter. In this regard the term *bhāvi* should be taken in the sense of 'what is about to occur [next to the silent gestures]', *i.e.* is 'following'.

As it appears, Śārṅgadeva drew upon Abhinavagupta, who explains the correlation between silent gestures and *bhāvi* beats as follows: "Depending on the beats that follow, gestures like *āvāpa*, *niṣkrāma*, etc., are divided into left or right handed [gestures], as for example, when a [right-handed] *śamyā* is to occur next, the *niṣkrāma* [preceding it, is also rendered] with the right hand alone," etc.[718]

The problem still remains of how the practice of fingering was coordinated with the normal form of *tāla* cheironomy. When it is assumed that silent gestures were performed by the right hand, it is difficult to conceive that fingering was performed with that same hand. This is because the contraction and spreading of fingers involved in *āvāpa* and *niṣkrāma* make it very difficult to perform the fingering on the same hand. This conclusion forces one to assume that fingering was performed with the other hand, in this case the left hand. A problem that then presents itself is that *tāla*, the left hand stroke, has to be accommodated among the gestures of fingering. Abhinavagupta's solution is logical and pragmatic.

---

[717] SR 35cd *āvāpādiḥ prayoktavyo bhāvipātasya pāṇinā*. The qualification *bhāvi* refers to 'future', 'imminent', or 'following' *pāta-s*.

[718] A.Bhā. IV, p. 178, ll. 13 f. *tatra bhāvipātānusāreṇāvāpaniṣkrā(mā)diṣu vāmadakṣiṇavibhāgaḥ, tad yathā śamyāyāṃ bhāvinyāṃ dakṣiṇenaiva niṣkrāmo.*

7. *Tāla* and rhythmic organisation

7.1 Introduction

As for the function and purpose of *tāla* in music, the Nāṭyaśāstra is not so explicit, if not straightforwardly evasive. Nonetheless, a remarkable theory emerges when one studies the scant allusions to the physiology of the rhythmic system as a whole. A misunderstanding of this and other matters was not without consequences for the performers on stage, for the author of the NŚ warns that one who does not understand *tāla* cannot be(come) a good musician (lit. a vocalist or instrumentalist).[719] Although Bharata and Dattila make vague teleological references to *tāla*, it is Abhinavagupta who - perhaps following Mataṅga - clearly formulates a definite theory.

Depending from which point of view one conceives the *tāla* system, it may be considered an instrument of measuring, of support or of coordination. These conceptions indicate the different modes, function and purpose of *tāla*, which ultimately contribute to the aesthetic experience or enjoyment (*rasa*) of the listeners. As a metrical standard, it represents the tools by means of which the musical time is measured. And since *tāla* constitutes an integral and fundamental part of music, a musical performance may be said to support itself by means of its standard measures provided by *tāla*. Apart from providing a measure (*māna/pramāṇa*) or a steady basis (*āśraya/pratiṣṭhā*) to a musical performance, the coordination (*sama/sāmya*) of its various elements constitutes another core function and purpose of *tāla*. Connected closely to the notion of coordination, is the idea of joy (*sukha*) or aesthetic experience (*rasa*) that emanates from the proper application of *tāla*. The general idea of *tāla* generating pleasure or joy (in music) has survived in later times.[720]

An interesting point is the historical development of these different aspects of *tāla*. It is our contention that the *tāla* system was initially conceived as a time-measuring device and that this notion was gradually expanded with the ideas of an all-supporting and coordinating device. The fundamental notion of *tāla* as a supporting and steady base (*pratiṣṭhā*) for the performing arts is best known, but dates back to sources from the early medieval (c. 10th century C. E.) and later periods (e.g., SR 5, 2 *tālas tala-pratiṣṭhāyām iti*). However, from a semantic point of view, one could trace it back as far as the beginning of the Classical period of Sanskrit literature (ca. 3rd century BCE). For, according to Pāṇini's list of Sanskrit roots, one of the meanings of *tal* (from which the noun *tāla* has been derived) is 'to support' (Pāṇinīya Dhātupāṭha 10, 58 *tāla pratiṣṭhā-karaṇayoḥ*).

The idea of *tāla* as supporting drama, and the music involved in it, is also attested to in the NŚ, but only in KSS edn. (ch. 31, 525-7). As it seems to conflict with a presumably older notion of *tāla* as a measure or measuring device (*māna/pramāṇa*), this passage is suspected to be an interpolation.

Following Viśākhila or Dattila, Abhinavagupta developed the idea of a twofold result of *tāla*. The performance of *tāla* had both a direct as well as an indirect result. The former was obtained immediately with the achievement of musical balance (*sāmya*), the latter was obtained elsewhere, perhaps in the world beyond, and indicated as the 'unseen results' (*adṛṣṭaphala*).[721] In this regard Abhinavagupta quotes master Viśākhila[722] according to whom "there is fulfilment here [as well as] hereafter due to [musical] balance."[723] It is striking that Abhinavagupta does not ascribe this line to Dattila or even mention him, although he in fact reproduces a relatively better reading,[724] saying that "[musical] balance arises from *tāla*, and from this balance follows fulfilment here [as well as] hereafter."[725] Given the archaic nature of Viśākhila's text Abhinavagupta might have considered him an older authority than Dattila, and perhaps ignored the latter.

---

[719] KSS v. 530ab *yas tu tālaṃ na jānāti na sa gātā na vādakaḥ.*

[720] Cf. Harināyaka (cited in Bhaktiratnākara p. 103) *tālena sukhaṃ janayatīti*; Saṅgītapārijāta (cited in Gītacandrodaya/Tālārṇava p. 107 v. 20) *atha tālaṃ pravakṣyāmi kālarūpaṃ jagaddharam / janayantaṃ sukhaṃ gīte vādyanṛtye viśeṣataḥ* (see below, n. 816).

It should be clear that Abhinavagupta's notion of *adṛṣṭaphala* does not seem to imply the common Indian notion of *adṛṣṭa* or *apūrva*, an 'unseen' force derived from the works or acts of a previous world.[726]

After discussing the relative position *tāla* occupied among the different elements of music, I will discuss how this position was related to a basic function and its further conceptualisations.

7.2 The relative position of *tāla*

Useful clues to this problem emerge when the hierarchical position of rhythm in ancient Indian music is determined more precisely. Since neither the Nāṭyaśāstra nor the Dattilam formulate rhythm in definite terms, we have to turn to their 'definitions' of Gāndharva, *i.e.*, ancient art-music,[727] and determine the interrelationship between its constituent elements, and in particular of rhythm. The NŚ, obviously not yet concerned with such relationships, simply describes Gāndharva as a conglomeration of melody (*svara*), rhythm (*tāla*) and composition (*pada*). Even though a completely egalitarian relationship between the components of Gāndharva may not be ruled out, tradition generally testifies to the opposite position. An exception, however, is Viśākhila, an ancient authority on music, who appears to support the view reflected by Bharata, though restricting it by the condition that the components of Gāndharva were to be in perfect conjunction with one another (*samavāye*) before one could speak of Gāndharva.[728] The Dattilam, on the other hand, implicitly sets forth a hierarchy by carefully delineating Gāndharva as a collection of notes set to words, well-measured by *tāla*, and rendered attentively.[729]

---

[721] Cf. A.Bhā. Vol. IV, pp. 6. 6 *evam anāditvād dṛṣṭādṛṣṭaphalatvāc ca pradhānaṃ gāndharvam*; 16. 13 *gāndharve tu viśiṣṭādṛṣṭasiddhaye*; 17. 2f. *viśiṣṭādṛṣṭāya prayoktur bhavati*; 30. 14f. *agniṣṭomikasāmena śivaṃ stutvā tatphalam iti prayoktur adṛṣṭaṃ śrūyate*; 30. 26; 45. 13f. *saptakāntaragatasvaraprayogeṣu kiyad dṛṣṭādṛṣṭābhyudayadāyi bhavatīti...*; 95. 2f. *dadhaty adṛṣṭaṃ viśiṣṭaṃ, dṛṣṭaṃ raktiṃ ca taranti, dhārayanti ca vīṇāvādyasvarūpam iti dhātavaḥ*; 100. 9f; 151. 10 *tathāivādṛṣṭasiddhau gāne tatparicchedamātrasya sāmyād āyātaṃ*; 152. 9 *yathā pūrvaraṅgādāv adṛṣṭasiddhyai saṃyatagītakavardhamānādi prayujyate*; 152. 15 *dhruvāgāne tu dṛṣṭaphale gāyansyeva so 'stu vyāpāraḥ*; 152. 18f. l *vādyanṛttagītādiprayogānubhāve 'nugāmidṛṣṭaphalasiddhau gītake*; 155. 16 *tathāpi yonirūpam adṛṣṭaviśeṣasya hetutbhūtaṃ*; 167. 20f. : 168. 18 *dhruvakāsarpiṇyādīnām adṛṣṭahetukatvābhāvān na lakṣaṇaṃ vācyam*; 168. 26 *tad evaṃbhūtayā karakriyayā darśanīya iti samayo 'dṛṣṭasiddha iti*; 178. 2 *ity atrābhivyakto 'dṛṣṭasāmarthyāt tarjanyeva gṛhyate, madhyamā tu tyajyate*; 181. 13f.; 191. 16 *śivagocaraṃ dṛṣṭādṛṣṭaparaḥ śreyaprāptilakṣaṇaṃ yāsyanti*; 265. 20f.; 268. 15; 273. 4ff.; 274. 15; 287. 2f. *gītakādav adṛṣṭaphale tair eva vyavahāraḥ sāmyamātropayogitā tālavyāpte*; etc.

[722] Viśākhila may evidently be reckoned among one of the ancient authorities on music and a contemporary of Bharata and Dattila. He is mentioned once by the latter (Datt. v. 177ab), but not by the former, not even in his list of so-called 'hundred sons' (NŚ [BI edn.] 1, 26-39).

[723] A.Bhā., Vol. IV, p. 393. 20 *viśākhilācāryaḥ sāmyād iha siddhiḥ paratreti vadan prādīdṛśat.*

[724] See A.Bhā. on NŚ 33, 1, p. 393, l. 20 *viśākhilācāryaḥ sāmyād iha siddhiḥ paratreti vadan pradīdṛśat.*

[725] Datt. 110 ab *tālāt sāmyaṃ bhavet sāmyād iha siddhiḥ paratra ca.*

[726] Apūrva stands for a retributive force in certain Indian traditions and is conceived as accounting ritual actions, and so on. Replacing the notion of a god, this force is accredited with meting out the unseen peculiar results (*adṛṣṭāpūrva phala*) which may accrue in another existence. In some schools it is referred to as Prārabdha (Vedānta), Dharmādharmau (Nyāya), Adṛṣṭa (Vaiśeṣika), Puṇyapāpe (Purāṇa), etc. See further Bhīma's *Nyāyakośa* BORI Poona 1978, s.v. *adṛṣṭa & apūrva.* See also M. Williams, *Indian wisdom*, Chowkhambha Sanskrit Studies Vol. 34, Varanasi 1963, 69 & 85.

Dattila thus seems to have been the first to clearly mark a hierarchical relationship between the component elements of Gāndharva; *svara* figures there as the dominant element, while *tāla* and *pada* figure as auxiliary or subsidiary factors subordinated to it. The secondary position of *tāla* in Gāndharva is further unmistakably marked by the use of the instrumental case (*tālena*) indicating that rhythm was subordinated to the expression of melody. However, since Bharata does not corroborate such a theory, his plain enumeration of the three constituents of Gāndharva music, forces one to assume that he endorsed an egalitarian view on this matter. On the other hand, he too may have had a hierarchical interrelationship in mind, quite similar to that of Dattila, as one could infer from the order in which he enumerates *svara, tāla* and *pada*, as well as the same succession in which he deals with the topics in separate chapters, obviously implying a decreasing order of prominence.[730] Later on, Abhinavagupta also subscribed to the hierarchy theory and interpreted Bharata's definition of Gāndharva in that spirit, illustrating it by citing Dattila's definition.[731]

Thus, besides according a subordinated position to rhythm, the ancient sources seem to agree in recognising its mode of functioning as that of a measure, or a measuring device, in service of melody. While vindicating his exposition of *svara* before *tāla*, Dattila reinforces the above-mentioned hierarchical interrelationship, but also underscores the metrical nature of *tāla*. "Among them (*i.e.* among *svara* and *tāla*)", says Dattila, "the (topics) pertaining to *svara* are treated first because they constitute the object of measuring *(meyatvāt)*."[732] The underlying idea is that *tāla* is implied to be the subject of measuring, and *svara* its object, which logically requires to be treated first and only then *tāla*.[733]

---

[727] Cf. NŚ [KM edn.] 28, 8ab *gāndharvam iti taj jñeyaṃ svara-tāla-padāśrayam.* Gāndharva, a major musical form from the classical period, has been described by Bharata as based on melody (*svara*), rhythm (*tāla*) and composition (*pada*). See also vv. 11 and 20 of the same chapter. See further, n. 88 above.

[728] A.Bhā. IV, p. 7. 14 f. *viśākhilācāryaḥ "svara-pada-tāla-samavāye gāndharvaṃ" iti* |

M. Lath translated this line less literally as follows: "...gāndharva is an inseparable concomitance (samavāya) of svara, pada and tāla." (1978, 8)

[729] Datt. v. 3 *padasthaḥ svarasaṃghātas tālena sumitas tathā* | *prayuktaś cāvadhānena gāndharvam abhidhīyate* ||

[730] The decision to treat the melodic instruments first, may have been motivated by the conviction that *svara* is the dominant and most important factor in music.

[731] Cf. A.Bhā. Vol. IV p. 7 ll. 16-20 *tatra pūrvanipātād eva prādhānyaṃ sūcitam* | *tena svarāḥ pradhānaṃ, tālo mānātmā* [*nāmātmā* GOS] *tatsāmyenopakārakaḥ, "tala pratiṣṭhākaraṇe" iti tāla evaitad āha* | *tato 'pi dūraṃ padaṃ padaśabdenaiva tasyādhāratālābhaḥ* | *taduktaṃ dattilācāryeṇa – "padasthaḥ svarasaṃghātas tālena sumitas"* | See further M. Lath 1978, 7 f. and 1988, 65 ff.

[732] Datt. v. 5cd *tatra svaragataṃ pūrvaṃ meyatvād upadiśyate*. The ablative *meyatvāt* here indicates the reason why *svara* is treated first. The interpretation 'before measurableness' (E. te Nijenhuis 1970, 17) is not convincing. Lath's interpretation as 'the object to be measured' is closer to the mark (1978, 194, n. 1).

7.3 Three main functional aspects of *tāla*

In the few instances of the NŚ where *tāla* is directly related to Gāndharva, it generally refers to the entire body of musical metre and rhythm as a measuring, coordinating, structuring or organising principle that controls, propels and keeps together the elements of the performing arts. However, a search in the NŚ for proper descriptions of these functional aspects or a comprehensive definition of *tāla*, proves futile because besides some cryptic and quasi definition-like statements,[734] one finds little data that describes its purpose, function and relation to music in clear-cut terms.

The contemporary Dattilam also does not define *tāla*, but indicates its function and subservient relation to melody. How *tāla* was treated and defined in the Bṛhaddeśī (c. 8th century) will unfortunately remain unknown until the lost chapter on *tāla* surfaces sometime. In succeeding centuries the situation did not much improve, and it is only with the Abhinavabhāratī (11th century) that we get the first comprehensive definitions that take into account all the aspects of *tāla*, including its supra-musical implications. However, the textual problems inherent in the text render many relevant passages almost unintelligible so that its contributions in this respect remain largely useless.[735] Śārṅgadeva (13th century), basing himself on Abhinavagupta's interpretations, winds up this development and launches a short, but workable definition in which *tāla* figures as a the measuring and supporting principle of the performing arts. Śārṅgadeva's contribution has been very effective, since his definition was taken up by almost all later writers on the subject, up to the present time.

A careful study of the NŚ shows that in the broadest sense of the word, *tāla* was indeed used to denote a number of functional aspects of the rhythmic system as a whole. In this respect, one may distinguish three main aspects, viz. *tāla* as a measuring, a supporting and a coordinating system. It should be noticed that these aspects presuppose one another. It is hard to imagine that any one of them can operate on its own, without the presence of the other(s).

The older idea of *tāla* as a measuring device, as propagated by the NŚ, is fully supported by the Dattilam, which proves that at least in the ancient period, this notion of *tāla* represented the initial conception of rhythmic organisation. By declaring melody (*svara*) the object of measuring (*meya*) and implying that *tāla* is the subject of that action, Dattila underscores the metrical nature of *tāla*.[736] It is only from the medieval period and onwards, that the word *tāla* is popularly derived from the root *tal* (to support) through the intermediate form *tala* (surface > palm of the hand) and explained as the general support of music and dance.

---

[733] M. Lath explains that in such a relationship the *meya*, the object to be measured, is unquestionably the primary object; "the cloth, in other words, is more important than the yardstick." (Lath 1978, 194)

[734] Cf. KSS 31, 1; 7ab; 29 and 530cd.

[735] Cf. A.Bhā. [PSS] Vol I, p. 168 ll. 12-4 *tasya yas tālaḥ pratiṣṭhā / api ca tattvaṃ viśiṣṭavardhamāna-gītakādiniyatavaiṇavasvaraviśeṣātmakadhātuvādyaśeṣabhūtaśuṣkaprayogaprakṛtikāvanaddhavādyagītiniyata-pratiṣṭhitalayātmakatvam*; Vol. IV, p. 150 ll. 17-9 *tasya ghanasya, yad ātodyaṃ todanaṃ hananaṃ, tasya vidhivac carataḥ śīghratva-samatvādirūpaṃ yad vikalpanaṃ vibhāgas, tatra cañcatpuṭādigata-druta-laghu-guru-pravibhāga eva nimittam, iti sa eva (ghan)ātodyavikalpana-śabdenokto 'trādhyāye vakṣyamāṇatayā prakrāntaḥ | tasya saṃgatiṃ kartum āha* ***vādyaṃ tu yad ghanaṃ proktaṃ kalā-pāta-layānvitam / kālas tasya pramāṇaṃ hi vijñeyaṃ tālayogataḥ*** */ iti*; p. 151 ll. 15-7 *yad ghanaṃ nāma vādyam ātodyaṃ,* ***proktam*** *uddiṣṭaṃ, tasya, tālena bhāvinā, śamyādisaśabdāvāpa-niḥśabdakriyāviśeṣaṇayoge sati yas tālaḥ, paricchittyātmakakālakhaṇḍaḥ kriyārūpo dravyātmā, sa eva gītakriyāpramāṇaparicchedopāyaḥ |*

From this perspective it is therefore surprising that it is only towards the end of the *tāla* chapter of the NŚ that the supporting aspect of *tāla* is briefly highlighted.

In later periods different functional aspects of *tāla* were recognised than the three mentioned above. They were often added into the eulogies of *tāla* as further qualifications. According to Someśvara (12th century) *tāla* relates to singing, music and dance as a cause (*kāraṇa*) to its effect, for the latter cannot exist or operate without the former.[737] Pārśvadeva (ca. 13th century) declares songs to be rooted in *tāla*, for without the latter the former are like 'oblations without [the accompaniment of] *mantra-s*'.[738] The Nāṭyasarvasvadīpikā (ca. 15th century) varies this theme by stating that not observing *tāla* equals the 'sin of killing a Brahmin' and that without it singing, music and dance are like 'lifeless bodies.' A king may even lose his kingdom when he disregards *tāla*, his wealth is depleted when he disregards the *mātrā-s*, and finally he becomes unhappy forever when disregarding [musical] time, style and cheironomy.[739] Sudhākalaśa (14th century) highlights the aesthetic value of *tāla* by declaring the latter as granting beauty and charm to singing, music and dance.[740] Portraying the performing arts (*tauryatrika*) as a drunk or mad elephant that moves almost out of control, Damodara (17th century) compares *tāla* with the hook (*aṅkuśa*) that is used by the elephant-driver for controlling his animal (read: the performing arts).[741] In a similar way the Saṅgītanārāyaṇa (18th century) points out the navigating capacity of *tāla*, because without it singing, etc., do not obtain the accuracy of motion (*gatiśuddhi*), just like a boat without a helmsman.[742]

7.3.1 *Tāla* as a measuring system (*pramāṇa/māna*)

To measure a performance, it first needs to be structured. This was done with the application of *tāla* measures that cut up the performance into measurable divisions. When the performance was structured with measures and accompanying gestures, its temporal duration could be measured by those very same measures. In fact, the organisation of the audible beats in a given measure indicate its substructure, which along with that of other measures combined into larger suites, make up the superstructure of large compositions such as the *āsārita-s* and *gītaka-s* in ancient Indian music.

---

[736] See above n. 732.

[737] Mānasollāsa 5, 837cd-38 (Vol. III, p. 108):
na tālena vinā gītaṃ, na vādyaṃ tālavarjitam
na nṛtyaṃ tālahīnaṃ syād, atas tālo 'tra kāraṇam
gītaṃ vādyaṃ tathā nṛtyaṃ, tṛtayaṃ yena labhyate

[738] Saṅgītasamayasāra 7, 62cd f.:
tālamūlāni geyāni, tāle sarvaṃ pratiṣṭhitam
tālahīnāni geyāni mantrahīnā yathāhutiḥ

[739] Nāṭyasarvasvadīpikā 1, 5, 33-5:
tālamūlāni geyāni, tāle sarvaṃ pratiṣṭhitam
tasmāt tālavihīne tu brahmahatyādi-pātakam
na tālena vinā gītaṃ, na vādyaṃ tālavarjitam
na nṛttaṃ tālahīnaṃ ca tadvinā mṛtadehavat
tālaḥīne hared rājyaṃ, mātrāhīne dhanakṣayaḥ
kāla-mārga-kriyāhīne nityaṃ duḥkhī bhaven nṛpaḥ

[740] Saṅgītopaniṣatsāroddhāra 2, 5ab: *gītaṃ vādyaṃ tathā nṛtyaṃ tālavarjaṃ na śobhate.*

[741] Saṅgītaratnākara 6, 4ab *tauryatrikaṃ ca mattebhyas, tālaṃ tasyāṅkuśaṃ viduḥ.*

[742] Saṅgītanārāyaṇa 1, 392:
vinā tālena gītāder gatiśuddhir na jāyate
karṇadhāraṃ vinā nāva ivātas tān pracakṣmahe

The abstract notion of a measuring principle may further be deduced from the combined operation of a number of rhythmical and metrical factors such as the application of percussion instruments, cheironomy and musical metres. In this respect we may recall that each of these factors operate as legitimate 'means of measuring (musical) time (*pramāṇa* or *māna*)'.[743] The (collective) performance of cymbals, drums, as well as the act of beating or counting time by means of cheironomic gestures, ultimately contributed to the measurement of musical time. The arsenal of *tāla* measures, such as *cañcatpuṭa cācaputaḥ, pañcapāṇi*, etc., including their modified forms (viz. *ekakala*, *dvikala* or *catuṣkala*), provided standards for measuring time. The actual measurement of time by means of these standards was effected by the characteristic application of *tāla* cheironomy. In other words, the former could actually be used only when the latter was fitted into it. By synchronising each consecutive constituent unit of time with a particular gesture, it was made visible as well as measurable. In this way the accompaniment or synchronisation of *tāla* patterns with cheironomy provided a practical tool for visualising as well as measuring musical time. We have compared this procedure with the synchronisation of the second hand of a watch to the time that is sought to be measured.

In our discussion of the ancient cheironomic system we raised the issue as to whether it served some practical purpose or not. From our analysis (see below, section 7.3) we ultimately reached the conclusion that the audible and silent gestures employed in *tāla* cheironomy indicated the structure or rhythm of a given *tāla* pattern, whereas the additional employment of an enigmatic method of fingering most probably served the purpose of marking or measuring time, *viz.* by marking the patterns at regular intervals or *pādabhāga-s* by means of the fingers. When, however, the dual function of *tāla* cheironomy is not observed, as for example, was done by Vācaspati, a relatively late scholar, one reaches the one-sided conclusion that cheironomic actions such as, e.g., "the spreading (*i.e. vikṣepa*) and contraction (*i.e. āvāpa*) of the fingers of the hand, by means of which time is measured, are (collectively) called *tāla*."[744]

There are indications that the distinct function of fingering was already recognised in the ancient period, as has been attested to by Dattila. This further implies that the other manual gestures of *tāla* cheironomy had a different function. In this respect Kallinātha unequivocally declares the method of fingering as 'serving the purpose of discriminating the divisions [of *tāla* measures] into *pādabhāga-s*.'[745] We may assume that Kallinātha's explanation, obviously based on observation of the contemporary musical practice, at least indicates that the marking of individual *pādabhāga-s* was not only a convenient way of distinguishing them from one another, but also a practical one for measuring or marking (the progression of) time in the measures they constitute.[746] All this seems to underscore the idea that the practice of *tāla* fingering had a metrical function, and that Abhinavagupta's attempt to relate it to Vedic

---

[743] Cf. NŚ 31, 1 *tālo* [...] *kālasya tu pramāṇaṃ.*

[744] Vācaspati (qouted in Tālārṇava p. 104, v. 6): *hastāṅguliprasāraṇākuñcanādi kriyā hi yā* | *tayā kālasya mānaṃ yat sa tāla iha kathyate* ||

[745] Kalānidhi p. 20 *pādabhāgabhedaparijñānārtham aṅguliniyamam.*

[746] This ancient practice seems to have survived to some extent in contemporary classical Indian music where the measures of musical time are divided into *vi-bhāga-s* (the equivalents of the ancient *pādabhāga-s*), which are also counted with the fingers in very much the same way as described by Dattila and Śārṅgadeva.

mudrā-s and their capacity to produce 'unique unseen merit' (*adṛṣṭaphala*, see below, § 7.3.3.3), was not accepted by tradition.

7.3.2 *Tāla* as a supporting system (*pratiṣṭhā*/*dhāraṇa*)

Next in importance to the clear-cut metrical function of *tāla* as *māna* or *pramāṇa*, comes the fundamental function of providing support (*pratiṣṭhā*) to or carrying (*dhāraṇa*) the performance. This notion that adds another dimension to the function of *tāla*, is introduced towards the end of the *tāla* chapter (KSS 31, 525cd-30) in a passage that contains interesting eulogies on *tāla*[747] and sheds some light on the transition from a metrical to a more fundamental function of *tāla*:

> <525cd> Thus should the wise know the construction of *tāla* in the songs.[748] <526> Great care should be taken there [in observing it], for a dramatic performance (*nāṭya*) is based on *tāla*. In other words, the *tāla* of the entire dramatic performance (*nāṭya*) as well as that of the playing of musical instruments, <527> is always related to time by means of measures.[749] [For,] a song - either deficient or exceeding in [the number of] syllables (*varṇa*), is [always] supported by *tāla*. <528> Therefore the producers [of plays] should carefully study it. [Songs such as] the *ṛg*, *gāthā*, *pāṇikā*, *saptarūpa*, *prakīrṇaka*, <529> *catuṣpadā* and *vardhamāna* are manifested only through *tāla*; one should therefore first carefully try to understand *tāla*.[750]

The author repeatedly emphasises that great care should be taken in studying and observing *tāla* (vv. 526a, 528ab and 529cd) because all elements of the performing arts are allegedly

---

[747] And on that account it appears to be an epilogue concluding the chapter. However, its occurrence there is somewhat curious because there are still some sections to follow (i.e. those on *laya*, *yati* and *pāṇi*), which actually conclude the chapter. It is therefore difficult to escape the impression that either the concluding sections, or the section eulogizing *tāla*, or even both may have been inserted later on (see further our discussion of these sections).

[748] The phrase *tāla-vikalpana* may also refer to the whole body or treatise of rules and regulations observed in *tāla*. This special connotation is borne out by the K mss., which paraphrase it as *tāla-vidhāna*. These mss. further clarify that the songs mentioned here refer to the *gītaka-s*, *āsārita-s*, etc. (*etat tālavidhānaṃ hi gīteṣv āsāriteṣu ca*), unlike Ghosh who tends to relate the verse to the preceding section that deals with *lāsya-s*: "These are the schemes of Tālas of songs [in the Lāsyas]." (See Ghosh Transl. II, v. 480cd, p. 103).

[749] The word *pramāṇataḥ* in the verse could also be interpreted as referring to the support of some ancient authorities. To which authority Bharata refers here is not known, though it is certain - provided this section is authentic - that he depended on earlier sources. On the other hand, if this section turns out to be a later addition - a possibility that cannot completely be ruled out, then the application of the word *pramāṇataḥ* only serves the purpose of according an authoritative status to it.

[750] KSS 31, 525cd-30:

525cd *evam etad budhair jñeyaṃ gītatālavikalpanam*
526 *tatra kāryaḥ prayatnas tu nāṭyaṃ tāle pratiṣṭhitaṃ*
sarvasyaiva hi nāṭyasya ātodyānāṃ tathaiva ca
527 *tālaḥ kālena saṃyukto bhaven nityaṃ pramāṇataḥ*
hīnaṃ prakṛṣṭavarṇaṃ vā gānaṃ tālena dhāryate
528 *tasmād etat prayatnena vijñātavyaṃ prayoktṛbhiḥ*
529 *ṛg gāthā pāṇikā caiva saptarūpaṃ prakīrṇakam*
catuṣpadā vardhamāne tālenaiva vibhāvyate
tasmāt pūrvaṃ prayatnena kāryaṃ tālāvadhāraṇam

based on it. This is most remarkable because until now (*i.e.* up to these verses) the *tāla* system was primarily depicted as a measuring tool, whereas here it is also presented as a supporting base. In fact, this is only a different way of perceiving the measuring capacity of *tāla*, for when the latter is envisaged as a structuring or organising device, it may naturally be conceived as a base or ground that carries or provides support to other sections of a performance. *Tāla* is thus ultimately conceived as a firm ground that supports or carries all the elements of the performing arts.[751] Not only the dramatic performance (*nāṭaka*), but also the instruments employed there, is based on *tāla* (*tāle pratiṣṭhitaḥ*). Most important of all, is that singing is explicitly stated to be supported by *tāla* (*tālena dhāryate*). Despite the broadening horizon of functions and increasing responsibilities, *tāla* obviously remained the servant of the performing arts, though it has to be admitted that these days there is a notable tendency among certain musicians to treat *tāla* as an equal aspect of music, because percussionists are regularly offered opportunities to balance the melodic and verbal aspects of performance with charming rhythmic flourishes.

The sudden change of perception on a matter of principle towards the end of the chapter is certainly suspicious from a philological point of view (as one suspects an interpolation or contamination), though highly interesting from a historical point of view because it reflects a historical development of the general perception of *tāla*. This development supports the thesis that the *tāla* system was initially conceived as a time-measuring device and that this notion was gradually expanded with the ideas of an all-supporting and coordinating device (see above, Chapter I). The fact, however, that the lines introducing the supporting aspect of *tāla*, occur only in the KSS version of the NŚ (31, 525-7), renders the entire passage under discussion doubtful and most likely of later origin. In this regard the shift in the emphasis of rhythmic function (*i.e.* from measuring to supporting) seems to represent a significant dogmatic development, which has been quite powerful as it was approvingly adopted by tradition. It is conceivable that when this new emphasis gained popularity, at a certain moment in time it was considered appropriate to be incorporated in the Nāṭyaśāstra, not only to legitimise its acceptance by tradition, but also to confer on it the authority of that text.

We may thus conclude that even though the notion of *tāla* as a supporting device is most probably of later origin than that of a measuring or structuring device, its emergence has nevertheless indeed been an important, (if not the most important) contribution to the history of *tāla*, as it came to dominate the *tāla* description (or definition) of later periods, even up to the present time.

7.3.3 *Tāla* as a coordinating system (*sāmya*)

One of the most important features of the organising qualities of *tāla* is the aspect of musical balance or evenness (*sama* or *samatva/sāmya*). Aesthetic experience (*rasa*), the ultimate musical objective, was partly achieved by *tāla* when all sections of performance were brought into perfect balance with one another due to structured coordination by the application of percussion (*tāla*).[752] This core function of *tāla* was, in fact, shared by the conventional percussion instruments, *i.e.* the idiophones and membranophones, but also by the extraordinary system of *tāla* cheironomy. Bharata nevertheless mentions only the drums in relation to the coordination of a performance.

---

[751] Later authors generally adopted this idea. Cf. Harināyaka: "As the coordinator and manifestor of time *tāla* supports music in an excellent manner." (cited in Bhaktiratnākara pp. 103; 229 *samayasya samatvena vyañjakatvena cādhikam / tālayaty eṣa saṅgītaṃ yaḥ sa tālo nigadyate" iti, tālayati pratiṣṭhāpayati, tala pratiṣṭhāyāṃ dhātuḥ*).

[752] Cf. Bhaktiratnākara p. 240, v. 3030ab *tālo gītagateḥ sāmyakārī.*

Although both categories of *tāla* instruments (*i.e. ghana* and *avanaddha*) provide rhythmic support, a distinction was obviously made between their purposes in music. Most interesting from a music-historical point of view, is that *ghana-s* were singled out as primary rhythmic instruments (see above, chapter 2). Śārṅgadeva, for example, distinguished the 'keeping of rhythm' (*tāladhāraṇa*) as the prime function of cymbals.[753] *Avanaddha-s*, on the other hand, also had a similar function, though only in a secondary way, because they also had, and still have an extra-rhythmical, or aesthetic function, *viz.* that of embellishing the entire performance. In the chapter on drumming (*vādyādhyāya*, KSS 33) Bharata points out this additional asset of drumming: "There isn't any drum,"[754] says Bharata, "that is not (to be) employed in the (traditional) repertoire of 'Ten Plays' (*daśarūpaka*); knowing them to have the aim of arousing sentiments (*rasabhāvaprayoga*),[755] they should duly be applied."[756] The fundamental control and coordination exercised by drumming, ultimately results in the achievement of a musico-rhythmical balance of performance (*sāmya*), which, in its turn, contributes to the theatrical or sentimental fulfilment (*siddhi*) commonly referred to as *rasa*.

Tāla cheironomy also made its contribution to the coordination of the performance. The manual gestures structured the performance time and made it measurable in term or time patterns. With this tool at hand the various sections of a musical ensemble could orientate themselves by the steady 'compass' provided by the gestures of the cheironomist. In this regard, it is tempting to compare the most dynamic aspects of *tāla* cheironomy with that of conducting in Western classical music. Without intending to identify the cheironomist with the conductor, it seems worthwhile to point out some of their similarities and differences. In substance, both appear to be 'time-beaters'. To meet his objective the *tāla* cheironomist seeks assistance from other percussionists, *viz.* cymbalists and drummers, whose musical support serves as audible and visible markers for reinforcing the cheironomical 'compass'. The conductor, on the other hand, does not depend on any particular musician to reinforce his directions, but uses only a stick (baton) as a visible device.

Moreover, unlike the conductor the *tāla* cheironomist does not exercise any influence on the performance with his own interpretations and directions, nor does he actively indicate the entries, or control the dynamics, tempos, volume, etc. In fact, he passively, though rigidly beats the time, while the other parties of the ensemble orientate themselves and base their individual or combined effort on his performance.[757]

---

[753] SR 6, 1181cd […] *kāryam asya syāt tāladhāraṇa.*

[754] Some prefer to translate *vādya* in the present context as referring to musical instruments in general. Cf. Ghosh Transl. II p. 163 v. 18 and Ramanathan 1999 p. 333.

[755] In the given context, I prefer not to analyse the compound as a *dvandva* and also do not take the word *bhāva* in its technical sense of passion, emotion, emotional expression, etc., but rather as an action noun indicating the arousal of *rasa*. Ramanathan (1999, 333) also avoids the technical meaning of *bhāva* here by translating the compound *rasabhāva°* as 'the *rasa* situation'.

[756] Cf. GOS 34, 17 *nāsti kiñcid anāyojyam ātodyaṃ daśarūpaka rasabhāvaprayogaṃ tu jyñātvā yojyaṃ vidhānataḥ.*

[757] Drummers, for example, could enter or exit the performance at various points of the rhythmic pattern; they had to wait for a certain gesture or beat in the cheironomical pattern, where they could lock in (*graha*). See further NŚ (KSS) 4, 316-9 and 31, 440-9.

7.3.3.1. Bharata on *sāmya* (balance) in music and drama

Unlike Viśākhila or Dattila, Bharata does not refer to a twofold fulfilment (*siddhi*) 'here and elsewhere' that ensues from the achievement of *sāmya*. The following discussion of Bharata's notion of *sama* or *samatva* takes place for a large part in the chapter on 'Fulfilment in Dramatic Production'. Although Bharata makes a distinction between human (*mānuṣī*) and divine fulfilment (*daivikā*),[758] he does not explicitly link the notion of evenness to a worldly and a heavenly effect as suggested by Viśākhila, Dattila and Abhinavagupta. Nevertheless, Bharata should be credited for laying down the germ for the *sāmya* dichotomy.

The notion of balance, evenness or co-ordination (*sama/samatva/sāmya*) already played an important role in the coordination of the various components of theatre. In the twenty-seventh chapter of the NŚ the author proclaims that producers should know the essentials of music, dance and drama, *viz.* co-ordination (*samatva*), charm of histrionic gesticulations (*aṅgamādhurya*), recitation (*pāṭhya*), roles (*prakṛti*), sentiment (*rasa*), singing (*gāna*), instrumental music (*vādya*), costumes and make up (*sanepathya*).[759] It is evident that *samatva* here does not exclusively relate to music, because in that case it would have been mentioned only along with typical musical elements such as *gāna* and *vādya*. But as it occurs in a comprehensive list of heterogeneous matters, *samatva* figures as a common coordinating factor of the performing arts. The fact that it figures first in this list indicates its importance not only in the area of music, but also in that of drama in general.

Bharata then explains the notion of *samatva* primarily from a rhythmic perspective, though within the larger framework of drama:

> <KSS v. 81> When during the durations (*kalā*) and variable durations (*kalāntara*)[760] of a play, histrionic gesticulation (*aṅga*) is performed [in compliance] with the rhythm (*tāla*) of singing and instrumental music, it is said to be fully in 'balance' (*sama*).[761] <KM v. 72> [In other words,] in which (play) (*yasmin*) the playing of drums is in 'balance' (*sama*) with the application of major and minor histrionic gesticulations and in compliance with the rhythm and tempo of singing, that [play] is said to be 'balanced' (*sama*).[762]

---

[758] Cf. KM 27, 2 ff. *siddhis tu dvividhā jñeyā mānuṣī daivikā tathā.*

[759] KSS 27, 80; KM 27, 70:

KSS v. 80	*samatvam, aṅgamadhuryaṃ, pāṭhyaṃ, prakṛtayo, rasāḥ,*	*evaṃ vidhiṃ tu dṛṣṭvā kāryo* KSS *samatvam aṅgamadhuryaṃ* KM
	gānaṃ, vādyaṃ, sanepathyaṃ, etaj jñeyaṃ prayoktṛbhiḥ	*gānam vādyaṃ* KSS/KM *vādyam gānaṃ* GOS; *sanaipathyaṃ* KSS *sanepathyam* KM; *prayoktṛbhiḥ* KSS *prayatnataḥ* KM

[760] On the explanation of this term, see above §§ 2.1.1 and 6.2.2.

[761] *Sama* is a very common term that indicates the evenness between certain factors. In melody, for example, *sama* stands for a particular tonal embellishment (*alaṃkāra*) in which all notes are even. Cf. GOS 29, 35a/BI 29, 45a *sarvasāmyāt samo jneyaḥ.*

[762] KSS 27, 81; KM 27, 71-72:

KSS v. 81	*gīta-vāditra-tālena kalāntarakalāsu ca*	*dhruvānāṭyaprayoge tu* KSS *gīta-vāditra-tālena* KM; *kalāntarakalāsu ca* KSS/GOS *ka(kā?)lāntarakalāsu(ca?)* KM
	yad aṅgaṃ kriyate nāṭye samantāt samam ucyate	*nāṭye samarthaḥ* KSS *nāṭye samantāt* KM (*nāṭyaṃ* GOS)
KM v. 72	aṅgopāṅgasamāyogaṃ gītatālalayānvitam	Om. in KSS: °samāyogaṃ KM °samāyuktaṃ GOS

It should however be observed that Bharata relates the faculty of generating *sāmya* exclusively to the art of drumming, as it is discussed only in the context of drums. The fact that he does not mention this quality in the *tāla* chapter could imply that *sāmya* does not relate to the practice of idiophones or to *tāla* cheironomy. However, as percussion instruments like drums, etc, they are also expected to share the capacity of effecting *sāmya* as a common faculty. Abhinavagupta, in fact, corroborates this idea and extends this faculty unequivocally to idiophones, as indicated below (see § 7.3.3.5). The apparent disconnectedness of these two chapters raises the issue whether the theory and practice of drumming presupposes *tāla* theory as laid down in the *tāla* chapter, or *vice versa*?

Nonetheless, what was stated earlier in NŚ 27 on the relation between drama, drumming and rhythmic balance, is reiterated in the chapter on drumming, but now with the emphasis on the specific contribution of drums. Bharata first specifies the various situations where the practical, coordinating and beautifying function of drums proves its value:

> Drumming should be applied for achieving balance (*samatva*) between the histrionic gesticulations (*aṅga*) (during a play or dance), as well as for covering (uncalled-for) breaks [during singing, music or dance], for [granting] a pause [to other musicians or dancers], (or) [just] for beautifying [a musical performance].[763]

This passage thus makes evident that aside from contributing to a general rhythmic support, drumming had the specific role of controlling the entire performance by establishing a holistic balance (*sāmya*). Although all elements of drama (cf. KM 27, 70-2) including its music, contributed to this result, drums in particular were accorded a special position. With respect to drums in general, the NŚ distinguishes eight levels of balance (*sāmya*), each of which is related to a specific rhythmic factor, *i.e.* (1) to 'syllables' (*akṣara*), (2) to 'gesticulations' (*aṅga*), (3) to 'measures' (*tāla*), (4) to 'tempo' (*laya*), (5) to 'tempic regulation' (*yati*), (6) to 'entries' (*graha*), (7) to 'final and confinal notes' (*nyāsāpanyāsa*) and (8) to 'tempic interaction'[764] (*pāṇi*).[765] The explanation that follows throws some light on their specific way of functioning:

---

bhāṇḍavādyaṃ samaṃ caiva yasmins tat samam ucyate	Om. in KSS; bhāṇḍavādyaṃ samaṃ caiva yasmins KM gāna-vādya-samatvan ca tad buddhaiḥ GOS

[763] KSS 33, 22 (cf. GOS 34, 21):

aṅgānāṃ tu samatvārthaṃ, chidrapracchādane tathā | *viśrāmahetoḥ śobhārthaṃ bhāṇḍavādyaṃ prayojayet* ||	*samatvārthaṃ*, KSS *samatvāc ca* GOS *viprāptihetoḥ* KSS *viśrāmahetoḥ* GOS; *....jāyate* KSS *prayojayet* GOS

[764] *Pāṇi* 'hand' is a technical term, the literal meaning of which does no justice to the meaning it carries in the field of rhythmic organisation. See further § 9.7.3, below.

[765] Cf. KM 34, 124cd-25:

sarvasyaiva hi vādyasya aṣṭau sāmyā bhavanti hi, *tad yathā*	Om. in KSS; sāmyā bhavanti hi KM sāmyāni bhavanti GOS/K_2
akṣarasamam aṅgasamaṃ tālalayayatisamaṃ grahasamaṃ ca	Cf. KSS 33, 109ab samapāṇyavapāṇiyutaṃ sphuṭaprakārakaraṇānugataṃ bhavet vādyaṃ
nyāsopanyāsasamaṃ pāṇisamaṃ ceti vijñeyam	*caiva* KM *ceti* KSS/GOS/K_2

(1) When the rhythm of drumming complies with the (poetical or metrical) rhythm of singing that is in accordance with the [the arrangement of] short and long syllables, it is called the 'balance of syllables' (*akṣarasama*);

(2) When [during a dance performance] (drumming) complies with histrionic gesticulation (*aṅga*) that is performed in compliance with the *kalā* intervals (*kalāntara*) in the beginning and ending of *dhruvā* songs, it is called the 'balance of 'histrionic gesticulations' (*aṅgasama*);[766]

(3) When the measure of drumming complies with the 'measure' (*pramāṇa*) of singing that is in accordance with measures made of *kalā* units of time, it is (called) the 'balance of measures' (*tālasama*);

(4) When (the tempo of) drumming fully complies with the slow, moderate or fast tempo of singing, it is (called) the 'balance of tempo' (*layasama*);

(5) When (the *yati* or tempic regulation of) drumming complies with the *samā*, *srotogatā* or *gopucchā yati* [of music or singing], it is called the 'balance of tempic regulation' (*yatisama*);

(6) When the 'initial note' (*graha*) of harps, drums and flutes complies with a single note in singing, it is [called] the 'balance of initial notes' (*grahasama*);

(7) When drumming arising from [the accompaniment of] flutes and harps, complies with the final and confinal notes, it is called the 'balance of the final and confinal notes' (*nyāsāpanyāsasama*);

(8) When drumming accompanies the music simultaneously (*sama°*), earlier (*ava°*) or later (*upari°*), it is called the 'balance of synchronisation' (*pāṇisama*).[767]

---

[766] Cf. KSS 27, 80, above n. 762.

[767] KSS 33, 110-15 (KM 34, 126-33; GOS 34, 140-47 [cf. pp. 473 f. vv. 79-85]; BI 33, 122-29):

yadvṛttaṃ tu bhaved gānaṃ gurulaghvakṣarānvitam *tadvṛttaṃ tu bhaved vādyaṃ, tad akṣarasamaṃ smṛtam*	*yadvṛttaṃ* KSS/KM *tad°* GOS/BI; *vākyaṃ* KSS/KM *vādyaṃ* GOS/BI, *smṛtam* KSS/KM *bhavet* GOS
dhruvāṇāṃ grahamokṣeṣu kalāntarakalāsu ca	Cf. KSS 27, 80; *gṛhamokṣe tu* KSS *grahamokṣeṣu* KM/GOS/BI
yad aṅgaṃ kriyate, vādyaṃ tad aṅgasamam ucyate	Cf. KSS 27, 80; *yad aṅgaṃ kriyate* KSS/GOS *yad aṅgatrigataṃ* KM/BI; *aṅgaṃ sama* KSS *aṅgasamaṃ* KM/GOS/BI
yatpramāṇaṃ bhaved gānaṃ kalākālapramāṇataḥ	*yatpramāṇaṃ* KSS *yac charīraṃ* KM/GOS/BI/K_2; *°kālapramāṇataḥ* KSS/BI *°tālapramāṇajam* KM/GOS
tatpramāṇaṃ tu yad vādyaṃ, tad vai tālasamaṃ bhavet	*yatpramāṇaṃ* KSS *tatpramāṇaṃ* KM/GOS/BI; *yad vākyaṃ* KSS/BI *tad vādyam* KM/GOS
sthite madhye drute vāpi laye gānaṃ ca yad bhavet	Om. in KSS/K_2; ca yad KM/BI tu yad GOS
tathaiva yad bhaved vādyaṃ, tad vai layasamaṃ bhavet	Om. in KSS, tathaiva yad bhaved vādyaṃ KM/BI tathā bhavet tu tad vādyaṃ GOS
samā srotogatā vāpi gopucchā ca yatir yathā	Om. in KM; *vāpi* KSS/BI *cāpi* GOS
yad tathā tu bhaved vādyaṃ tad vai yatisamaṃ bhavet	Om. in KM; *yadvipan tu bhaved vādyaṃ* KSS {*yat tathā hi* BI} *tathā bhavet tu yad vādyaṃ* GOS
tatāvanaddhavaṃśānām ekaśrutikṛto 'pi ca	Om. in KSS
graho gānena sahitas tad vai grahasamaṃ bhavet	Om. in KSS; mānena sahitas tad vai KM{[gā]nena BI} gānena sahitaṃ tat tu GOS
nyāsāpanyāsayogas tu svarāṇāṃ hi yathā bhavet	*nyāsopanyāsayogas tu svarāṇāṃ hi yathā bhavet* KSS/BI *nyāsāpanyāsayogaṃ tu tṛtīyāyāṃ bhavet yathā* KM {*°yogas tu svarāṇāṃ* GOS}

7.3.3.2 Viśākhila and Dattila: *Sāmya* is of two types

Two other important authors from the ancient period, *viz*. Viśākhila and Dattila, also considered *sāmya* as the direct result of percussion (*tāla*). Unlike Bharata, they attached further consequences to the achievement of *sāmya*. Right at the beginning of the section on *tāla*, Dattila makes it perfectly clear that '*tāla* results in *sāmya*'[768] and that 'with (the achievement of) *sāmya* there is success here and elsewhere.' Since neither Viśākhila nor Dattila elaborate on these matters, I draw largely upon Abhinavagupta's interpretations, where the notion of *sāmya* is seized upon to build an ingenious and intriguing psycho-aesthetic theory.[769] The dichotomy of rhythmic success or achievement 'here' and 'elsewhere' is somewhat enigmatic and deserves further examination. Abhinavagupta has advanced two interpretations, one of which may be branded as 'musico-geographical' and the other, as 'spiritual'. As for the first interpretation, Abhinavagupta suggests that the reference to a twofold result refers, on the one hand, to the success of (*tāla* and) *sāmya* 'here' (*iha*), *i.e.* in Gāndharva, the classical music of the past, and on the other, to the success 'elsewhere' (*paratra*), *i.e.* in Gāna, the popular regional forms.[770] This interpretation makes sense because *tāla*, applied either in classical or popular music, naturally results in musical balance or evenness and the latter in the success of the performance. However, such an interpretation is valid only when one can prove that Dattila as well as Viśākhila already worked with the dichotomy of Gāndharva and Gāna forms of music.

According to the second interpretation, Dattila seems to connect spiritual consequences to the achievement of *sāmya*, for, besides the achievement here, *i.e.* during the performance, some form of spiritual attainment also seems to be warranted elsewhere, most likely in the world yonder. From the point of view of aesthetics, the attainment 'here and now' could refer to the immediate result of *sāmya* as a form of spiritual equipoise, *i.e.* the psychological state of mind in which one becomes susceptible to the beauty of music, dance, dramatic performance, etc. The mental or meditative state of equanimity or equilibrium suggested here, reminds one of the similar notions of *samatva* 'evenness of mind', as for example, in Yoga tradition[771] where it has been equated with *yoga*, the tranquillity of mental composure.[772] In a

---

vaṃśavīṇodbhavaṃ vādyaṃ nyāsāpanyāsajaṃ tathā	*vaṃśavaiṇodbhavaṃ vādyaṃ* KSS {*vaṃśavīṇo°* KM/BI} *tadvad vādyaṃ yad ātodye* GOS; *nyāsāpanyāsajaṃ* KSS/KM/GOS; *tathā* KSS *tu tat* KM/GOS
samapāṇy avapāṇy oktaṃ tathaivoparipāṇikam	*upapāṇy okte* KSS *avapāṇyoktaṃ* K_2 *ardhapāṇisthaṃ* KM/GOS; *°oparipāṇi jam* KSS *°oparipāṇigam* KM/BI {*°pāṇikam* GOS}
gītānugaṃ ca yad vādyaṃ smṛtaṃ pāṇisamaṃ tu tat	gītānugaṃ ca yad vādyaṃ smṛtaṃ KSS {gītānugataś ca BI} gītavādyānugaṃ vādyaṃ jñeyaṃ KM gītavādyaṃ tu vādyaṃ syāt K_2

[768] Datt. v. 110 ab *tālāt sāmyam bhavet, sāmyād iha siddhiḥ, paratra ca* ||

[769] See Lath 1978 (*passim*), especially ch. V, and my forthcoming paper on the notion of *Sāmya*.

[770] The difference between Gāndharva and Gāna and the role *tāla* plays in both forms, is discussed elaborately in the A.Bhā., Vol. IV, pp. 393-7. See below, n. 769.

[771] Cf. Bhagavad Gīta 2, 38 *sukhaduḥkhe same kṛtvā ... tato buddhāya yujasva* and 48cd *siddhyasiddhyoḥ samo bhūtvā samatvaṃ yoga ucyate*.

[772] It also resembles the notions of *viśrānti*, *nirvṛtti*, *laya*, and so on, in other systems, all of which denote some sort of mystical union (immersion or absorption). Cf. R. Gnoli 1956, xxiii f.

mystical sense it refers to the state of self-realisation (*brāhmī sthiti*) where one attains to oneness with the absolute (*brahmanirvāṇa*).[773] This state is characterised by the pervasion of consciousness by bliss and light: it belongs to the same order as the enjoyment of the supreme *brahman*.[774] It is perhaps this kind of state that Dattila and Viśākhila had in mind when referring to a *sāmya* 'elsewhere' or 'in world beyond'.

7.3.3.3 Abhinavagupta on *sāmya* and *adṛṣṭa*

Abhinavagupta skilfully synthesised Bharata's fundamental ideas on *sāmya* with the 'musico-geographical' or 'spiritual' implications hinted at by Viśākhila and Dattila (see preceding paragraph). Since Abhinavagupta quotes Viśākhila, he obviously considered the latter as the progenitor of the doctrine of *sāmya*, and *siddhi* its results, for he regularly refers to him in connection with *sāmya* (p. 152. 20) and *adṛṣṭa-siddhi* (pp. 17. 2; 393. 20, etc.), but never to Dattila! This curious fact has thus far escaped the attention of scholars who have studied the Dattilam.[775]

Abhinavagupta interprets the results of *tāla* and *sāmya* that accrue 'here' and 'elsewhere' as 'seen' and 'unseen' achievements (*dṛṣṭādṛṣṭa-siddhi*) (see above, n. 721). However, the 'seen' or palpable result of *tāla* obtained right here in this world, seems to refer, on the one hand, to the overall success of the performance due to the balance and coordination achieved by rhythmic organisation,[776] and on the other, to the aesthetic delight on the part of the spectators and listeners[777] due to the evenness and receptivity of mind (*samatva*) produced by *tāla*. The following passage from the Abhinavabhāratī (ad NŚ 28, 1) accords *tāla* a status among the melodic instruments, and thereby the capability to evoke aesthetic experience. Notably *tāla* has been described as a thread that runs through all the elements of music, holding them together and in balance; a condition that is conducive to restraining passion:

> However, [the playing of] string instruments is most beneficial towards [evoking] *rasa* [in drama, because they are applied] to remove (adverse) dispositions of mind, which have become an obstruction for an identification [of the actors with the original characters] when the actors are doubted to represent characters distinct from Rāma, etc., by [facilitating proper identifications such as] "Lord [Rāma himself] enters the forest," etc.; [likewise] the *tāla* section too [evokes *rasa* because, like a thread, it evens up the performance, melody and tempo - removing [thereby] the [obstructing] private thoughts of the spectators, while keeping

---

[773] Cf. Bhagavad Gīta 2, 72.

[774] See further Gnoli, *ibid.*

[775] The fact that Abhinavagupta did not ascribe this doctrine to Dattila, could mean that his copy of the Dattilam did not contain line 110ab, or that an erring scribe of the Abhinavabhāratī wrote 'Viśākhila' instead of 'Dattila'. If the line had occurred in the Dattilam, Abhinavagupta, who is known for his alertness and keen acumen, would certainly have acknowledged Dattila as the source, and not Viśākhila. One may also consider Datt. 110ab a post-Abhinavagupta interpolation, supplied either directly from Viśākhila's alleged work, as indicated by Abhinavagupta, or indirectly from the Abhinavabhāratī. The last option presupposes a confusion (on the part of the scribe-interpolator) between the names Viśākhila and Dattila, or perhaps even an identification of these authors.

[776] In contrast with the chaos, misbalance and unevenness when the performance of *tāla* is not successful.

[777] Abhinavagupta, in fact, generally excludes the performers and actors from having an aesthetic experience. See further J. L. Masson & M. V. Patwardhan, *Aesthetic Rapture*, Deccan College, Poona 1970, Vol. II p. 59.

> [their mind] fixed right there [where identifications with the characters are required] - and, establishing an evenness (*sāmya*) that is restraining passion (*rāganibandhana*).[778]

As for the 'unseen' reward (*adṛṣṭa-phala*), to be obtained 'elsewhere', Abhinavagupta remains evasive, very much like the ancient masters who only suggested some form of reward or merit that accrues hereafter, probably in a world beyond.

7.3.3.4 *Tāla* cheironomy and Vedic cheironomy (*mudrā*)

Unlike the ample references to the *sāmya* producing capacity of the idiophones and membranophones, Abhinavagupta hardly relates the system of cheironomy or its constituent elements to *sāmya*, though this is certainly implied because, like the cymbals and drums, it too contributes to structuring the performance and in that respect facilitates achieving musical evenness (*sāmya*). First of all, the solemn and almost ritualistic manual movements of *tāla* cheironomy are reminiscent of the ritualistic gestures in Sāmavedic cheironomy (*mudrā*), where, in compliance with certain religious traditions, each 'action' receives retribution either in this or the yonder world. Even though a direct relationship with Sāmavedic practice of cheironomy could not be shown,[779] Abhinavagupta ascribes the retributive aspect of the latter to the actions of *tāla* cheironomy. In order to do so, he merely ascribes the rigidity and precision of action inherent in Vedic ritual and recitation to *tāla* cheironomy.

There is at least one instance in the Abhinavabhāratī where Abhinavagupta clearly relates the practice of *tāla* fingering to Vedic *mudrā-s* and their capacity to produce 'unique unseen merit'. He first justifies the order in which the fingers were employed (*viz.* beginning with the little finger, etc.) and then the 'unseen' consequences.

Tāla patterns were as a rule divided into a fixed number of 'feet' or *pādabhāga-s* and (excluding some exceptions) each of them was meticulously demarcated with a particular finger (see above, §6 6.6.3-6.6.7). The first 'foot-part' was marked with the little finger, the second with the ring finger, the third with the middle finger, and the fourth with the index finger. And when there were more feet in a given pattern (as for example in *pañcapāṇi tāla*), then the fifth and sixth feet were to be marked again with the little and ring fingers respectively. Abhinavagupta explains this procedure by means of the maxim that "smaller (fingers) occur first in counting, (both) in common (as well as) scriptural usages."[780] After vindicating why the little finger is used to mark the first *pādabhāga* in (all) *caturaśra* (as well as *tryaśra*) *tāla*, Abhinavagupta applies this usage to the practice of accent *mudrā-s* in Vedic recitation, stating that "for indicating the circumflex accent (*svarita*) in the Yajurveda or

---

[778] A.Bhā. on NŚ 28, 1-2, p. 1. *tataṃ ca (tatāṃśo) naṭānāṃ rāmādiviśeṣarūpatayā śaṅkyamānānāṃ tanmayībhāvapratyūhabhūtāśayanivāraṇāya 'nātho vanaṃ viśati' ity ādinā, tālāṃśo' pi prayogaṃ* sūtrakalpatayā samīkurvan svaraṃ layaṃ ca svaprekṣakahṛdayaṃ tatraivānusyūtaṃ tirodadhat, sāmyaṃ ca rāganibandhanaṃ vidadhad, rasaṃ prati parama-maṅgalam* |

* *tālam api prayoga-sūtrakalpatayā* in the Madhusūdan Śāstri ed.

[779] See my forthcoming paper on 'Cheironomy in Indian Arts'.

[780] A.Bhā. on NŚ 31, 40-50 (Vol. IV), p. 177. 13 *kanīyasī hi prathamā loke gaṇanāyāṣ ve(vai)dike* [....] Similarly the fifth *pādabhāga* in *pañcapāṇi tāla* is marked again with the little finger, because after applying the little, ring, middle and index fingers, the little finger again occurs on the fifth position. (A.Bhā. p. 178. 3f. *punaḥ punaḥ prāthamyāt pañcame kanīyasy evāṅgulyantarābhāvāt pratiṣṭheti*).

Ṛgveda verses [..... of certain schools ?], the [successive] vocalic syllables[781] are marked [with the fingers] beginning with the little finger, (etc.)"[782]

As to the reason why the third 'foot-part' (*pādabhāga*) of uneven patterns is said to be marked with the index finger, and not with the middle finger as would be expected according to the 'normal' sequence of fingerings followed in even patterns, Abhinavagupta takes recourse to the theory of 'unique or unseen result' (*adṛṣṭaphala*) and explains that: "[as prescribed by Bharata] only the index finger has to be applied [there] because it has the capability to produce 'unseen' (results), whereas [the application of the] the middle finger should be dropped."[783] However, Abhinavagupta's speculations on this matter did not gain much ground because they were not accepted by tradition, as it seems from the testimonies of later authors such as Śārṅgadeva and Kallinātha, who remain silent on any alleged relationship between *tāla* and Vedic Cheironomy or its consequences.

7.3.3.5 *Sāmya* extended to the idiophones and cheironomy

As indicated above, Bharata bases his doctrine of *sāmya* on the special position of drums in theatrical performance, without however relating it to the idiophones and *tāla* cheironomy. Since the contribution of these two categories of percussion instruments to the combined effort of establishing balance (*sāmya*), cannot be ignored, Bharata's silence on this matter poses a musicological problem. In this regard, it may suffice to refer to Abhinavagupta's allusions to their capacity to generate *sāmya*.

In his comments on Bharata's classification of musical instruments, Abhinavagupta offers an interesting interpretation of the function and purpose of percussion instruments. He analyses the fourfold division of the instruments on the principles of their tonal properties (*svara*), flavour or sentiment (*rasa*) and musical applicability (*upayogitā*).[784] Abhinavagupta first distinguishes the instruments on account of their tonal properties. Because of their primitive nature and construction, the idiophones (*ghana*) are said to represent the less developed group as they produce the most limited range of sounds, usually just one pitch, and therefore the least suitable for arousing a sentiment (*rasa*). The *avanaddha-s*, have more melodic properties as they produce a wider range of pitches, and are therefore more capable of arousing aesthetic experience than the *ghana-s*. Abhinavagupta ingeniously turns the tonal limitations of the idiophones (*ghana*) into valuable assets by arguing that the exclusive clarity and penetrating value of their sound, which is clearly heard over and above that of others, renders the *ghana-s* the most effective and suitable instruments for rhythmical purposes. In his own words,

> *Ghana* represents [a class of instruments] that is 'beaten'[785] for the purpose of establishing a balance of time (*kalāsāmya*) [between the various sections of a performance]. Therefore, (idiophones such as) brass cymbals, etc., are called *tāla* (instruments) because they are the

---

[781] Since only vocals were accentuated, we decline to translate *svara* here with 'tones'.

[782] A.Bhā. on NŚ 31, 40-50 (Vol. IV), p. 177. 13 ff. ...[?*rāṇā*]*yaṇīyā yajusi rici vā svaritapradarśane kaniṣṭhāta ārabhya svarāṇāṃ kurvate* | *evaṃ yāvat tv artha(va)tvenānyatvaṃ pādabhāgasya tarjanyā 'bhivyajyate* |

[783] A.Bhā. on NŚ 31, 40-50 (Vol. IV), p. 178. 10 *adṛṣṭasāmarthyāt tarjanyeva gṛhyate, madhyamā tu tyajyate*.

[784] See A.Bhā. IV, p. 150 ll. 6-14. Even though the text is very corrupt, one may still abstract from it Abhinavagupta's main ideas on the matter under discussion.

[785] For the etymological undertones implied here, see above, ch. II.

best means of beating time (*tālaikapramāṇa*) (and) because they produce [fixed and clear] tones and syllables.[786]

Abhinavagupta obviously explained the unique position of the idiophones against the background of the waning practice of *tāla* cheironomy, *i.e.* the method of marking musical time by means of gestures with the arm, hand and fingers (cheironomy, see further ch. 4). This method that comprised both audible and silent gestures, accompanied the performance as a means of marking, measuring and coordinating its span of musical time. However, under certain circumstances these manual gestures could lose their coordinating force when, for example, their audibility or visibility would be impaired or become blurred by dancers moving rapidly over the stage, or when their weak sound would be drowned by that of the vocalist(s), or other instruments.[787] This would result in rhythmic or tempic disorientation of the dancer, the singer, or of other members of the ensemble, and ultimately in the disarray or imbalance of the entire performance. In order to avoid such catastrophes, the audibility of the gestures was reinforced with the sharp and penetrating clashes of cymbals.[788] Because of these qualities, it was not the *avanaddha-s* but the *ghana-s* which were accorded the status of the most suitable instruments for rhythmic accompaniment. In this way they also came to occupy a very high, if not the most prominent position among the percussion instruments.

The music-historical implications of Abhinavagupta's account seem to underscore modern theories on the development of musical instruments, in particular that of percussion instruments. The pre-eminence of the cheironomical system in the NŚ, indicates that it was the first and foremost method of marking time in Indian music. In this respect the introduction of formal percussion instruments, first of cymbals, etc., and later of drums, etc., must have been of later date. As indicated above, the introduction of the *ghana-s* was to facilitate the cheironomic system.

It seems that the enforcement of the cheironomical system was not yet completed with the introduction of cymbals, but with the introduction of drums. Even though the cheironomical system and the percussion instruments existed side by side, it is evident as attested to by history, that the former gradually receded to the background because of its inherent shortcomings whereas the latter gained more and more ground due to their strong additional assets; *viz.*, the clarity of the idiophones and the aesthetic overtones of the membranophones (see § 4.2).

These considerations underscore our idea that the cheironomical system lies at the basis of the *tāla* system, followed in hierarchy by the idiophones and membranophones respectively. When one evaluates its hierarchical position against the background of Abhinavagupta's method of differentiating the idiophones and membranophones on account of their tonal properties (*svara*), capacity to arouse sentiment (*rasa*) and musical applicability (*upayogitā*), one cannot but conclude that *tāla* cheironomy occupied a position that is lower than that of the idiophones. As regards pitch, tone, timbre, etc., the claps of the hand are hardly distinguishable from one another, except perhaps with respect to volume.[789] Its melodic capacities being restricted to the minimum, also bars it from any aesthetic capabilities, just like in the case of the idiophones. Nonetheless, these limitations render *tāla* cheironomy all the more useful or suitable for rhythmical purposes.

---

[786] A.Bhā. (ad NŚ 6, 27cd) Vol. I, p. 105.3 f. *hanyate kalāsāmyārtham iti ghanaḥ* | *ata eva tālaikapramāṇatvāt svara-varṇa-sambhavāt tāla ity uktaḥ kāṃsyatālādiḥ.*

[787] Cf. A.Bhā. Vol. IV, p. 152 ll. 11 f. *prayogasya sāmyaṃ na syāt* | *saśabde 'pi pāte karaśabdasya tathā sphuṭam ākaraṇanaṃ na bhavati yathā ghanaśabdasya*; *op. cit*, ll. 20-2 *viśākhilācāryādayo 'syānuvṛtti tālasāmyaṃ susampādam ity āśayena kutrāpi pṛtag eva tālakalānāṃ vicchede laye vā 'vadhānavattāmātra-kriyayā āvāpādikriyāyā ca sampādanayā prāṇībhūtasya gātuḥ prasādaparīkṣaṇaprayojanaṃ kāṃsyatālaṃ manyante.* See Lath 1978, 105 and 193.

[788] Note that no attempt was made to reinforce the aspect of visibility, obviously because it always remains a vulnerable point during dance performances in particular.

---

[789] The *śamyā* and *tāla* are single-handed beats, whereas the *sannipāta* is a double-handed, and therefore 'louder' beat.

8. *Tāla* and time, action or sound

8.1 Introduction

Due to the associations of *tāla* with the common divisions and aspects of time (*kāla*), and subsequently also with those of action (*kriyā*), in later times it eventually came to be eulogised as absolute time (*kāla*). On the other hand, *tāla* is also associated with sound, and simply because beating time produces sound, it was subsequently also identified with *nāda*, *i.e.* cosmic sound.

The metaphor of a pair of cymbals (*tāla*) producing splashes of sound when clashed together, especially inspired musicologists to relate the performance of *tāla* to Shaiva cosmology. By identifying the two cymbals of a pair with Śiva and Śakti (= Pārvatī) respectively, as well as with their creative powers, the performance of *tāla* became imbued with the creative force inherent in the coition of these deities.

As indicated by Abhinavagupta, action, in a musical context, is primarily represented by *tāla* cheironomy, but optionally also by time. That *tāla* is identified with action, is obvious, but less apparent is its identification with time. *Tāla* cheironomy, *i.e.* a series of actions with the arm, hand and fingers, may indeed be observed as only representing time; in fact, it was specially designed for the mere purpose of dividing time by means of its actions. Subsequently, the resulting divisions of time were manifested by their corresponding actions and therefore set for measurement.

8.2 *Tāla* as time (*kāla*) and action (*kriyā*)

In ancient times *tāla* was generally considered 'the measurement of (both) time and action',[790] and on that account also identified with its objects of measurement. From the descriptions of the *tāla* patterns (see § 2.3) it becomes evident that the complex system of *tāla* gestures was intimately connected with time measures as well as with time measurement. The time measures, represented by so-called *tāla* patterns, were composed of gestures set to smaller units of time (*akṣara* or *kalā*). In the syllabic state of a given *tāla* pattern (*yathākṣara*), each time-syllable is accompanied by an audible gesture, but in its expanded states (*dvikala* and *catuṣkala*) they are augmented by silent gestures. In this way the measurement of the entire span of musical time was permeated with *tāla* activity.

Prima facie, Bharata only seems to describe the intriguing phenomenon of *tāla* cheironomy and drumming, without offering any teleological justification for their application. He neither explains their necessity and function, nor provides any reason why manual actions were required and applied to accompany passing time, nor says what the practical purpose was for using two separate sets of manual gestures (*i.e.* silent and audible) along with a subtle system of 'fingering' that specially accompanied the silent gestures (see 3.4.4). In the subsequent musicological literature no one apart from Abhinavagupta, tried to address the relationship between *tāla*, time and action. However, a closer examination shows that many of the explanations offered by Abhinavagupta were implicitly present in Bharata's exposition of *tāla*.

---

[790] Cf. Amarakoṣa 1, 7, 9c *tālaḥ kālakriyāmānam*.

Abhinavagupta introduces his interesting ideas about the equation of musical time and action against the background of a controversy about the alleged independent position of *tāla*. After stating that action in music (*kriyā*) is identical with cheironomy (*tāla*) or time (*kāla*) (see below, n. 795), he rejects the idea of separating *tāla* from music and drama, presenting it as an [independent] 'branch of learning' (*viṣayavibhāga*, lit. subject-division).[791] Even though the NŚ does not refer to any such event or a hierarchical order between the components of theatre,[792] Abhinavagupta seems to exploit that idea as a useful analogy to support his thesis that time is inseparable from action. In order to maintain the unity between time and action, he had to consider *tāla*, music and drama as forming an inseparable unity. Since music and drama represent action, and *tāla* time, according to him it was utterly foolish to consider *tāla* as existing independently from music and drama, or time and action as existing separately. In order to fill up the lacunae in Bharata's system, Abhinavagupta adduces a number of epistemological arguments from the Nyāya-Vaiśeṣika system. The main ideas are reflected in the following passage:

> Here [*atra*, in Gāndharva music,] action (*kriyā*) is [formally identified with] cheironomy (*tāla*) or musical time (*kāla*) […]. Time is not distinct from action, on the contrary, time is said to be the cause that divides everything.[793] Moreover, action itself is the dividing (factor) of other actions. Or, when time is accepted [as the dividing factor], then time – (also) determined by time, is [conceived as a limited] substance (*dravyam*). When it [*i.e.* the latter] did not exist then it would also not (be possible) to differentiate (between) actions. So why object here against [time measuring substances, such as,] *ghana*, (etc.), [for] when [their application] were totally absent in Gāna or Gāndharva,[794] without (their) actions it would be absolutely impossible to divide [time].[795]

---

[791] A.Bhā. on NŚ 31, 1, p. 151. 3 f. *tāla ity ākṣipya, gāndharvanāṭyabhedena yo viṣayavibhāgaḥ kṛtaḥ, sa tuccha, ity asmabhyaṃ na rocyate.*

[792] With respect to the hierarchy between two important components of music, viz. *svara* and *tāla*, the Dattilam (v. 3) indicates that *tāla*, as the measuring agent, was subordinated to *svara*, the object of measuring.

[793] This line reminds of how Helārājā (on Vākyapadīya 3, 9, 1) characterised the Vaiśeṣika-s: *kālaḥ kriyāvyatirikto janmādikriyādvāreṇa bhāvaparicchedako vaiśeṣikair āmnātaḥ* |

[794] AG analyses the musical forms, pertinent in connection with the *Nāṭyaśāstra*, into two basic categories: gāndharva and Gāna (Lath 1978, 78). AG has explained their difference in great length in his comment on NŚ 33, 1, which is summarised by Lath (*ibid*. p. 91) as follows: "1. they differ as to the nature of their formal structures (svarūpāt): they are composed of a distinct set of svara, pada and tāla. 2. they differ as to the end of purpose that they serve and consequently also in the nature of their resulting reward or fruit (phalāt): gāndharva has a adṛṣṭa-end while gāna aims at an immediately pleasing aesthetical effect - a dṛṣṭa-end. 3. they differ as to the occasion of their application or employ (kālāt): gāndharva is used in the pūrvaraṅga, gāna within the plot of a play. 4. and lastly, they differ as to their distinct functions (dharmāt)."

[795] A.Bhā. on NŚ 31, 1, p. 151. 3-8 *atra kriyā ca tālaḥ kālo vā* […] [1]*na kālaḥ kriyāvyatiriktaḥ, api tu sarveṣāṃ paricchedahetuḥ* [2]*kālaḥ ity ucyate* | *paricchedaś ca kriyaiva*[3] *kriyāntarasya* |[4] *kālābhyupagame 'pi vā, kālāvacchinnena* [5]*kāla dravyam iti* | *tadabhāve na cāpi kriyāvacchittiḥ*[6] | *tena ghanena, iti kim atra* [7]*nirbandhanena* | *sarvathā 'bhāve gāne*[8] *gāndharve vā kriyayā vinā paricchedo na sambhavaty eva* |

[1]*na kālaḥ kriyāvyatirekaḥ, api tu* GOS *°vyatirikto 'stu māpibhūt* GOML ms. [2]*kālaḥ* GOS *tālaḥ* GOML ms. [3]*kriyaiva kriyaiva* GOS, possibly a case of dittography, absent in GOML ms.; *kri(ya)yaiva* suggested by Sharma (1992, 343). [4]Daṇḍa ours; comma after *pi vā* ours [5]*kālaṃ dravyam* GOS *kāladravya* GOML ms. [6]*kriyāvicchittiḥ* GOS *kriyāvacchittiṃ* GOML ms. [7]*nibandhanena* GOS *nirbandha°* GOML ms. [8]*'bhāve gāne* GOS *..dohīne* GOML ms.

Abhinavagupta evidently relies on a number of well-known doctrines on time. First, he subscribes to the view that time is considered as equivalent to action. Second, as cognate notions, time and action are interdependent and insolubly connected in such a way that one is expressed or measured by means of the other. He further agrees that time is not different from action, because time is generally conceived as a unique, all-pervading and eternal substance. But since action in non-eternal substances is related to time, various time-divisions are superimposed on the indivisible time.[796] By accepting time as a cause[797] of non-eternal substances, notions such as causality, change, action, etc., could be explained. Time, being regarded as underlying all motions, etc., and indicated or manifested by actions (cf. Nyāyabhāṣya 2, 1, 40), was subsequently accepted as a measure of everything that has motion.[798] Time is thus conceived as a dividing factor of activity[799] by means of which the course of activities can be measured.[800] And since Abhinavagupta in a similar way equates action with 'limiting [time]', he also argues that action can be measured by another action,[801] etc.

The ideas underlying Abhinavagupta's philosophy of time, especially in a musical context, require more research. The view, however, that actions are connected, or even identical with time is quite old. Besides the Vaiśeṣika Sūtra (2, 2, 9; 5, 2, 26; 7, 1, 25, etc.) we see in the Brāhmaṇa literature, for instance, that cosmic time, represented by the year (*saṃvatsara*), was indissolubly linked with events and processes such as creation, decay, etc.[802]

Rhythmic theory in the NŚ indeed presupposes a correlation between time and action as has been explained by Abhinavagupta. This correlation is clearly observed in the common[803] synchronisation of musical time with cheironomical action (*pāta*). The idea of synchronising time with action was evidently motivated by philosophical thought.

Against the epistemological background reflected by Abhinavagupta, the dynamic aspect of the application of *tāla* cheironomy in the NŚ becomes somewhat more meaningful. The seven actions with the hands were used to 'manifest' and subsequently to 'measure' musical time. For him it was even an established fact that *tāla* alone was the measuring factor for all actions (in music, dance and drama).[804] Thus by synchronising each fraction of musical time with the actions of *tāla* cheironomy, musical time was made visible as well as measurable.[805] Thus, time, measured out by action, came to be denoted by the term *tāla*.[806] The cheironomical actions (*kriyā*) were thus used as parameters for measuring musical time. In line with the etymological meanings of the word *tāla*, it is convenient and permissible to designate them as 'beat', which corresponds to its Sanskrit equivalent *pāta* or *tāḍa*. Notably, the Sanskrit word for a limited portion of time, viz. *kalā* (in contradistinction to time in general, *kāla*) also came to designate some of the cheironomical actions accompanying it, and even all of them in post-Bharata times. This means that *kalā* indicates both the time as well as the action representing or manifesting it. Moreover, the idea that so-called *kalā* actions facilitate the act of measuring, seems to be based on the root √ *kal* 'to count' which renders *kalā* almost tantamount to counting, and counting time in particular.[807] *Tāla*, either in the sense of a percussive or cheironomic system, has therefore appropriately been declared 'the means of measuring (musical) time (*pramāṇa*)'.[808] All these considerations show that in Indian musical culture the act of beating, counting and measuring musical time constitute the essence of *tāla* cheironomy.

---

[796] Cf. Bhartṛhari's Vākyapadīya 3, 9, 32.

[797] Cf. Vaiśeṣika Sūtra 2, 2, 9; 5, 2, 26; 7, 1, 25, etc.

[798] Cf. e.g. Bhartṛhari's Vākyapadīya 3, 9, 1 *vyāpāravyatirekena kālam eke pracakṣate* | *nityaṃ, ekaṃ, vibhudravyaṃ, parimāṇaṃ kriyāvatām* ||

[799] Cf. Vākyapadīya 3, 9, 2c *kriyābhedāya kālas.*

[800] Cf. Vākyapadīya 3, 9, 28cd ... *parimīyeta kālād evaṃ kriyāgatiḥ.*

[801] This idea is conveyed in e.g. the following verse from the Vākyapadīya: "That (activity), the measure (of time) of which is well-known, and which is employed in measuring (the duration of) any other activity, is called time." (Tr. Peri Sarveswara Sharma) (Vākyapadīya 3, 9, 77 *kriyāntaraparicchede pravṛttā yā kriyāṃ prati* | *nirjñātaparimāṇā sā kāla ity abhidhīyate*).

[802] See Gonda, *Prajāpati and the Year*. Amsterdam 1984, § 9.

[803] Some care has to be taken here because no gestural accompaniment was prescribed, for example, during the *upohana*, that is an opening tactic in most of the musical compositions such as the *gītaka-s*, etc. This restriction applies at least for the earliest period, because later on some form of action with the fingers appears to be allowed even there.

[804] A.Bhā. p. 283. 13-4 *tatra tāla eva tāvat kriyāṇāṃ sarvāsāṃ paricchedaka iti prasiddham.*

[805] This process may be compared with the synchronous motion of the second hand of a watch with the flow of time it marks.

In later times the characteristic ideas about the relationship between musical time, action and measurement prevailed, as attested to by the Saṅgītadarpaṇa (ca. 1625), which cites various authors with similar ideas on the matter. In view of the conceptual unity of these notions, on the one hand, and their complex correlation with the abstract nature of *tāla*, on the other, the Saṅgītārṇava recapitulates that *tāla* is manifested in the same way as time, action and measurement (altogether).[809] In this regard, time is conceived as made up of units such as, *kṣaṇa*, etc.,[810] action as comprising motions (or beats) with the palms of the hand (*tāla*), and measurement as the [duration of] rest between two [specific] actions.[811] Even though these three basic notions or aspects dominated the concept of *tāla*, in fact, they constituted a much wider group known as the 'Ten Essentials' (lit. vital powers) of *tāla* (*tāladaśaprāṇa*), viz. *kāla* (time), *mārga* (style), *kriyā* (action), *aṅga* (constituent limb), *graha* (starting point), *jāti* (rhythmic type), *kalā* (time-unit), *laya* (tempo), *yati* (tempic control) and *prastāra* (permutation). Nevertheless, the temporal element remained the most pervasive aspect of *tāla*. For when beating (or measuring) time with beats and waves, such as *āvapa*, etc., the time that is being pervaded by the 'Ten Essentials' is called *tāla*.[812] From a holistic point of view when the measuring and structuring capacity of *tāla* is conceived as shared by all the elements of a performance, then time, in fact, may be said to be measured (or structured) by (the actions represented by) the performing arts, which are also controlled or governed by the 'Ten Essentials' (of *tāla*).[813]

---

[806] Cf. Saṅgītapārijāta (cited in Tālārṇava/Gītacandrodaya 23cd): *tāla kālas kriyāparicchinnas tālaśabdena bhaṇyate*. See further, n. 816 below.

[807] Cf. SR 4, 175cd ... *tālair ā-kal-itā*... 'set to *tāla-s*'.

[808] NŚ 31, 1 *tālo [...] kālasya tu pramāṇaṃ*.

[809] Saṅgītārṇava (cited in Damodara's Saṅgītadarpaṇa 6, 6): *kāla kriyā ca mānaṃ ca sambhavanti yathā saha / tathā tālasya sambhūtir iti jñeyaṃ vicakṣaṇaiḥ*.

[810] Kṣaṇa represents the measure of time necessary to pierce through each lotus petal on a stack of a hundred. It is the smallest unit of time of a series comprising other units beginning with kṣaṇa, lava (8 kṣaṇa-s), kāṣṭhā (8 lava-s), nimeṣā (8 kāṣṭhā-s), kalā (8 nimeṣa-s), caturbhāk or truṭi (2 kalā-s), etc., and ending with kalpa. Cf. Gītacandrodaya (Tālārṇava) p. 108 v. 25 *ākṣaṇāt kalpaparyantaṃ kālalakṣaṇam ucyate / padmapatraśataikaikacchedakālaḥ kṣaṇa bhavet*; Saṅgītadarpaṇa 6, 21-4, etc.

[811] Saṅgītārṇava (cited in Saṅgītadarpaṇa 6, 7): *kāla kṣaṇādiko jñeyaḥ, tālayor ghaṭanaṃ kriyā / kriyayor antaraṃ yat tu viśrāmo mānam ucyate*.

[812] Vinoda (cited in Saṅgītadarpaṇa 6, 11): *hastadvayasaṃyoge viyoge cāpi vartate / vyāpyamāno daśaprāṇais sa kālas tāḷasaṃjñakaḥ*. [*vyāpyamāno* Thanjavur edn. (v. 627) *vyāpyamān yo* Simon edn. p. 276]

8.3 *Tāla* and cosmic time (*kāla*)

The eulogy of *tāla* even reaches religious dimensions when it is equated with cosmic time (*kāla*). Since *tāla* measures musical time by means of gestures (cheironomy), it deals, in fact, with both time and action. As interdependent and inseparable factors, they are easily identified or interchanged. The qualities normally attributed to the cosmic principle of time (*kāla*), are now transferred to *tāla*, which is then regarded as the cosmic rhythm or pulse manifesting itself in the same way as cosmic Time, Space and Action.[814] This is taught by Ahobala (17th century) as follows:

> I will now teach *tāla*, which, having the nature of [cosmic] time [and assumed to] support the world, generates pleasure in singing, music and dance in a distinct way. In this world the triple [cosmic actions beginning with] creation, etc.,[815] proceed with this *tāla*. And the motion of animals, beginning with insects, (etc.), is possible only by *tāla*. Moreover, any action (whatsoever) in the world is based on *tāla*; the motion of the sun and other planets takes place only by means of time [*tāla* v. l.]. Even the cosmic period of Brahmā is restrained by *tāla*, and subjected to the control of time. Time, measured out by action, is denoted by the term *tāla*.[816]

8.4 Tāla and sound (nāda)

Another cosmic entity occasionally identified with *tāla*, is *nāda*, *i.e.* cosmic or primordial sound. As in the case of *kāla* (time), *nāda* too is considered an absolute principle that is manifested in limited forms. By certain Indian traditions, *nāda* is considered the primary cause of the phenomenal world. Sound is considered the manifestation of *nāda*, which is described as *Nāda-Brahman* and is thus equated with the absolute of the Upaniṣad-s.[817] Since *tāla* is said to have the same nature as *nāda* (*tālanādasvarūpaṃ*),[818] it follows that both entities were considered as forces with identical qualities.[819] *Tāla* obtains a function similar to that of cosmic sound from which creation emanates, and is thus placed right at the base *and* origin of Indian music.

---

[813] Haribhaṭṭa (cided in Saṅgītadarpaṇa 6, 10): *tālaḥ kāla iti khyāto hy āvapādi kriyāmitaḥ / prāṇais tu daśabhir yuktaḥ tauryatrayamito bhavet.*

[814] In this light *tāla* is further described as with and without an end, beginning and form. See Nāṭyasarvasvadīpikā 1, 3, 4-11 and Acyutarāya's Tālakalābdhi (ca. 16th century) as quoted in Kavi's Bharatakośa (New Delhi 1951) pp. 247 f.

[815] i.e., maintenance and destruction.

[816] Saṅgītapārijāta (cited in Tālārṇava/Gītacandrodaya 20-3):
atha tālaṃ pravakṣyāmi kālarūpaṃ jagaddharam
janayantaṃ sukhaṃ gīte vādyanṛtye viśeṣataḥ
utpattyādi trayaṃ loke yena tālena jāyate
kīṭādipaśūnāṃ ca tālenaiva gatir bhavet
yāni kāni ca karmāṇi loke tālāśritāni ca
ādityādigrahāṇāṃ ca kālenaiva gatir bhavet [*tālenaiva* v.l.]
brahmakalpo 'pi tālena yataḥ kālavaśaṃ gataḥ
kālas kriyāparicchinnas tālaśabdena bhaṇyate [*kālakriyā* printed text]

[817] See further Shringy & Sharma *Saṅgītaratnākara*. Vol. I, New Delhi 1991, 21, n. 1.

[818] Cf. Nāṭyasarvasvadīpikā 1, 5, 13cd *tālanādasvarūpaṃ tu sampravakṣyāmi.*

Even though the association of *tāla* with *nāda* does not seem to be so important or obvious as with *svara* or even *pada*, it offers a useful metaphor for underscoring the fundamental position of *tāla*, as well as for imbuing it with a sense of cosmology. The performance of *tāla* is indeed permeated by sound; the beating of time with sounding beats or with other percussion instruments, produces sound such as '*khaṭ*', '*paṭ*', '*chaṭ*', etc., on cymbals[820] and '*jheṃ*', '*praṃ*', '*diga*', '*thiṃ*, etc., on drums. The idea suggested by the employment of mnemonic syllables, which undoubtedly have an onomatopoeic origin, is that creation (from primordial sound) proceeds from meaningless towards meaningful sounds, and from unmanifest towards manifest forms.

The word *tāla* is also interpreted as a 'compound' word that symbolically refers to the combined form of two different entities represented by the initial syllables. The syllables constituting the word *tāla*, are associated with Śiva and Śakti (= Pārvatī) respectively, as well as with their creative powers, for when they conjoin, not only the word *tala* (> *tāla*) is formed, but also the prime creative forces of the universe are released by the implied coition of the two abiding deities.[821] In the context of dance, for example, we learn that in common parlance the word *tāla* is known [as a compound] that is obtained when *tā°* the first syllable of *tāṇḍava* the 'robust dance of Śiva' is compounded with the syllable *°la* of *lāsya* the 'delicate dance of Parvartī'.[822] Even though it is not attested to anywhere in literature that *tāla* stands for dance or its comprehensive form which combines *tāṇḍava* and *lāsya*, the indirect identification of *tāla* with dance not only underscores the fundamental dependence of the latter on the former, but also infuses the dry *tāla* theory with a dose of basic Śaiva cosmology.

From the musicological point of view, *tāla* refers primarily to the eponymous class of cymbals and the syllables *ta* and *la* to a pair of cymbals (as extensions of the hands); the one held in the left hand is called Śakti (representing the eponymous deity) and the other held in the right hand Śiva (also representing the eponymous deity).[823] The reason for associating the deities with the instruments was thus obviously meant to confer a cosmic dimension to their performance: the deities not only reside in the pair of cymbals, but also imbue it with their creative powers.

The parallelism between the coition of the two deities on the one hand, and the clash of the pair of cymbals, on the other, is indeed obvious: the union of Śiva and Śakti results in the release of the prime creative forces of the universe, whereas the conjunction of the eponymous cymbals activates a similar force called '*tāla*'.[824] It is placed on a par with *nāda* -

---

[819] Moreover, the *nāda* nature of *tāla* is asserted in the same way as (pure) dance (*nṛtta*) is said to have the same nature of tāla. Cf. Nāṭyasarvasvadīpikā 1, 5, 16cd *śrīmantālātmakaṃ nṛttaṃ, tālo nādātmako mataḥ.*

[820] Cf. Nāṭyasarvasvadīpikā 1, 5, 2cd f. *tālau śakti-śivākhyau tau nādasandhānahetukau* || *khaṭ-paṭ-chaṭ-pramukhānāṃ ca śabdānāṃ sambhavāspadau.*

[821] Cf. Harinārāyaṇa's Saṅgītasāra (cited in Tālārṇava/Gītacandrodaya 4): *takāra īśo girijā lakāras, tālas tataḥ syāc chivaśaktiyogāt* | *tales tu ghāto ghañi veha tālas, tālo 'thavā syāt talayos tu togāt* ||

[822] Cf. Saṅgītārṇava (cited by A. K. Sen 1973, 74): *tāṇḍavasyādyavarṇena lakāro lāsyasya śabdabhāg* | *yadā saṃgacchate loke, tadā tālaḥ prakīrtitaḥ.*

[823] Cf. SR 6, 1179cd *vāmena dhārayec cchaktiṃ, śivaṃ dakṣiṇapāṇinā.*

[824] Cf. Nāṭyasarvasvadīpikā 1, 5, 14 *takāraḥ śaṅkaraḥ prokto, lakāraḥ śaktir ucyate* | *śiva-śakti-samāyogāt 'tāla' ity abhidhīyate.* Strictly speaking, the word *tāla* may be analysed into three syllabes (i.e., *ta-a-la*), which relate to three corresponding deities, but in that case the analogy and cosmological implications between the pair of cymbals and the dual deities (Śiva and Śakti) is lost! Cf. the Saṅgītaratnamālā (as qouted in the Tālārṇava p. 104, v. 5) which considers three syllables and

the divine sound (*nādabrahma*) and source of the universe of sounds. Because when the cymbals clash, that means when the abiding deities as well as their forces unite, *tāla*, the cosmic process of creation is activated with the manifestation of *nāda* sound such as '*khaṭ*', '*paṭ*', '*chaṭ*', etc.[825] The sequence of meaningless syllables implies that creation proceeds from meaningless towards meaningful sounds, and from unmanifest towards manifest forms.

---

three deities: *takāraḥ śivajanmā syād, akāro viṣṇur ucyate | lakāro mārutaḥ proktas, tāle devā vasanty amī.*

[825] Cf. Nāṭyasarvasvadīpikā 1, 5, 2cd f. *tālau śakti-śivākhyau tau nādasandhānahetukau || khaṭ-paṭ-chaṭ-pramukhānāṃ ca śabdānāṃ sambhavāspadau.*

9. *Tāla* and rhythmic factors

9.1 Introduction

Bharata, unlike most of the authors after him, does not directly identify or equate *tāla* with any rhythmic or dynamic notion, such as, rhythm, tempo, control of tempo, etc., though it is true that he seems to do so, but only through indirect associations. The identifications of *tāla* with relative and absolute substrata such as time (= action) and sound have already been discussed in the preceding chapter. Here attention is drawn towards the identifications with dynamic aspects such as 'rhythm', 'tempo' (*laya*), 'tempic regulation' (*yati*), tempic interaction' (*pāṇi*) and 'phased synchronisation' or 'syncopation' (*graha*). All these identifications seem to originate from a single reference where *laya, yati* and *pāṇi* are said to be *aṅga-s* of *tāla* (NŚ 31, 530cd). It is clear that *aṅga* is not used there in the sense of concrete elements, employed in the construction of metrical patterns (see above, § 2.8.1), but as methods or ways of organising those metrical structures. In fact, he reckons them among the formal aspects of *tāla*, such as style (*mārga*), state of expansion (*ekakala*, etc.,), and so on. Notably all three factors have three varieties each, which are interdependent and interrelated (cf. Table 46 below). These notions relate to the basic tactics, which play an important role in rhythmic variation and organisation. As they are firmly based on the principles of *tāla* they are accordingly treated extensively in the *tāla* chapter.[826]

It seems that in ancient Indian music the notion of rhythm or rhythmic organisation is analysed into a number of formal factors, inter alia, *laya*, *yati* and *pāṇi*. Among them tempo (*laya*) was the fundamental concept upon which other improvisational aspects such as tempic control (*yati*) and temporal phasing (*pāṇi*) were based. Tempo exerts on eof the most powerful control in music, affecting everything that will occur in the performance. It is intrinsically a master control, for through the pacing of a performance (i.e. its tempo) all details of the music are unfolded in the critical dimension of real time. Epstein 1995, 97.

For an appealing performance, drumming in particular required various tactics such as the display of virtuosity, polyrhythm, acceleration, deceleration, synchronisation, syncopation, etc. Among other things, the controlled alteration of tempo (*laya*) played a significant role in a number of these variational or improvisational techniques. In this way a form of polyrhythm could be obtained, for example, when various types of drums started playing at different moments and in differing tempos (KSS 33, 184-205).[827] Even though *laya, yati* and *pāṇi* appear to be matters of *tāla* and of drumming as well, vocalists and instrumentalists also employed them whenever willing to demonstrate (or show off) their rhythmical skills in the same way as can be witnessed even these days during modern performances where similar techniques are applied.

The application of these factors make up the dynamic aspects of *tāla,* which primarily exploits the possibilities of playing with the synchrony and balance between singing and instrumental music. By now and then briefly abandoning and restoring the principles of harmony and balance, a dynamic interaction - wholly based on the interplay of tension and resolution - was realised, which obviously aimed at adding beauty to the performance.

---

[826] See below, n. 836. These three notions have also been mentioned earlier in the *tāla* chapter (vv. 453cd f.) and even more frequently in other chapters of the NŚ (cf. KSS 4, 298-30; 316-7; 5, 20ab, 63; 29, 101-6; 32 *passim*; 33, 85-99; 109-15).

[827] On the issue of polyrhythm, see above §§ 2.2 and 4.8.

9.2 *Tāla* equated with rhythm

When contrasted or juxtaposed with certain notions or words such as *svara* (melody), *laya* (tempo), *pada* (text), etc., the word *tāla* often denotes rhythm.[828] For example, when ancient art-music (Gāndharva) is defined, it is described as based on melody (*svara*), rhythm (*tāla*) and composition (*pada*).[829] In this respect *tāla* refers to the throbbing or pulsating element of music that provides a base for time-measurement, etc. By the English word 'rhythm', we mean the regular pattern of pulsation in music provided particularly by the percussion section to the accompaniment of a musical performance. However, in many other cases the word rhythm alone seems inadequate to cover more specific meanings of *tāla*. In most cases where a more comprehensive meaning is required, which indicates function and purpose, 'rhythmic organisation' appears to be an appropriate rendition. It refers to the entire body of musical metre and rhythm that operates as a structuring, measuring, supporting or coordinating principle that measures, controls, propels and keeps together the elements of the performing arts. *Tāla* in this particular meaning has been discussed above, in ch. 6.

9.3 *Tāla* equated with tempo

In post-Bharata tradition *laya* is often equated, if not identified with *tāla*, and Abhinavagupta should be pointed out as the propagator of this view.[830] According to his philosophical interpretation of music there is no difference between time (*kāla*), action (*kriyā*) and beating time (*tāla*).[831] In this regard, most, if not all related or derived notions of time such as *tāla*, *kalā*, *laya*, *yati*, *pāṇi*, and so on, were intimately related with one another through the temporal aspect of *tāla* and therefore also identifiable with the latter.[832] However, in view of the entire edifice of rhythmic organisation, *tāla* could not be identified with any single temporal aspect alone, but only in correlation with others. So whenever identifying *laya* with *tāla*, Abhinavagupta had to qualify the former in such a way that it assumed the form of an integral definition of the latter (see below, n 834).

From a metrical point of view, the difference between *laya* and *tāla* is indeed very slim. First, tempo (*laya*) is a matter of time and action. The 'rest' or 'pause' (*laya*) between successive beats, or moments of action, is expressed in terms of time or *kalā*.[833] Tempo (*laya*) is thus determined by the measure or duration of *kalā*, because when the value of the latter is altered, the former too is changed into slow (*vilambita*), moderate (*madhya*) or fast tempo (*druta*). Accordingly, the actual duration of a given measure (*tāla*), or metrical standard, depends completely on the *laya* accepted. Even though a *tāla* measure is made up of a number of *kalā* units of time, its duration and nature are determined by its current *laya*. In this regard *tāla* (in a temporal connotation) may indeed be likened or even equated with *laya*.[834]

---

[828] As used in NŚ 28, 8; 11 and 20, and occasionally also in the 31st chapter.

[829] Cf. NŚ [KM edn.] 28, 8ab *gāndharvam iti taj jñeyaṃ svara-tāla-padāśrayam*. Bharata has described Gāndharva, a major musical form from the classical period. See further, n. 88 above.

[830] Cf. A.Bhā. Vol. IV p. 153 l. 9 f. ***laya eva hi tāla ity agre vakṣyāmīty abhiprāyeṇāha tataḥ kalākāleti.***

[831] See above, n. 795.

[832] The intimate relationship between *kalā*, *laya* and *tāla* is attested by the fact that the latter two are described in terms of the first, and the first in terms of *laya*. For example, the phrase *kalākāla°* used to describe *laya*, also occurs in the description of *tāla* (i.e. v. 7ab).

[833] The 'rest' (read: time) determined by action, has been adapted beautifully in Indian musicology by the term *laya* (tempo). As observed above (§ 2.6) rhythmic theory presupposes a correlation between musical time and action. In fact, the former is meticulously synchronised by cheironomical action, specially designed for measuring it.

There is also a textual 'justification' for this peculiar equation. Due to the significantly different order of certain verses in the GOS version of the text, Abhinavagupta appears to have read a suggestion to equate the notions of *laya* and *tāla*. While in the KSS version the verse defining *tāla* measures (v. 7ab *kalākālapramāṇena tāla iti abhisaṃjñitaḥ*) occurs after the description of *laya* (KSS v. 4) and *kalā* (vv. 5-6), in the GOS version it occurs immediately after the description of *laya*:

GOS v. 5 *tataḥ kalā kālakṛto laya ity abhisaṃjñitaḥ*
trayo layās tu vijñeyā drutamadhyavilambitāḥ
GOS v. 6 *yas tatra tu layo madhyas tatpramāṇā kalā bhavet*
kalā kālapramāṇena tāla ity abhisaṃjñitaḥ

> "...Three *laya-s* should be known, *viz.* fast, medium and slow. <6> "However, among them what is the [span of a] medium 'rest' the *kalā* (unit of time) should have that as its measure; with a measure of *kalā* units of time [*laya* itself] is called *tāla* (time/action)."

When these lines are read in this order, the notion of *laya* appears to be related directly to that of *tāla* through the intermediate equation with *kalā*. In this regard *laya* of v. 6ab has to be accepted as the grammatical subject of the following line.

9.4 *Tāla* equated with *laya*-related factors

Tāla is also associated with other notions, which are directly related to 'tempo' (*laya*). It is in this light that one should understand Abhinavagupta's equation of *tāla* with 'tempo' (*laya*), 'tempic regulation' (*yati*) and 'tempic contrast' (*pāṇi*).[835] At the end of the *tāla* chapter the topics of *laya*, *yati* and *pāṇi* are treated together in a separate section.[836] Even though the notion of *laya* has already been discussed earlier in that chapter (vv. 4-6), it is taken up again in a different context (see below, n. 847). In the first section *laya* was mentioned as the temporal 'rest' between two or more beats and measured in terms of *kalā* units of time (see below, § 3.1). Here in the context of rhythm and dynamics, *laya* means 'tempo' and constitutes the dynamic base upon which the notions of *yati* and *pāṇi* are built.

---

[834] Cf. A.Bhā. Vol. IV p. 154, l. 6 *kalānāṃ yaḥ kālo layatvasaṃjñitas tasya yat pramāṇaṃ paricchedas tenopalakṣitas tālaḥ*; ll. 11 f. *kriyāviśeṣāvacchedād yo niyamo 'nuvartamānaḥ sthiraśīghramadhyarūpo layas tāla iti*.

[835] Cf. A.Bhā. Vol. IV p. 284, ll. 2 f. *na ca layamātras tālaḥ | sakalakriyāsu tadbhāve 'pi tālābhimāna(nā)bhāvād iti | tadviśeṣaṇabhūtāṃ yatiṃ nirūpayati*; ll. 17 f. *evaṃ niyamaviśiṣṭo layas tāla iti tāvat*; l. 20 *yaṯyavacchinnalayaṃ tālam iti*; l. 24 *tena viśiṣṭakriyāparicchedyo yaṯyavacchinno layas tāla iti*; p. 285, ll. 19 f. *evaṃ yatipāṇibhyām upakriyamāṇo laya eva tāla iti*.

[836] See KSS 31, 530cd-45; KM 31, 326-34; GOS 31, 369cd-78; BI 31, 485cd-502. For discussions see also E. te Nijenhuis 1970, 155-60; 360-5; Lath 1988, 95-9; 159-62; Ramanathan 1999, 121-29; Chaudhary 1997, 55-61.

Bharata, Dattila as well as Śārṅgadeva treat *laya*, *yati* and *pāṇi* together in one section, but still as separate from the structural elements (*aṅga*) of the *gītaka* compositions. In the NŚ their treatment occurs almost as a virtual appendix to the *tāla* chapter (*viz.* after the treatment of the *gītaka* and other compositions), whereas in the Dattilam it is accorded a more appropriate place, namely immediately after the structural elements (*aṅga*) and before the *gītaka-s*, etc. Śārṅgadeva treats them at the end of the formal section on *mārgatāla* (SR 5, 44-52), but before the treatment of the *gītaka-s*.

9.5 A general 'definition' of *tāla* in terms of *laya*, *yati* and *pāṇi*

Towards the end of the *tāla* chapter Bharata mentions *laya*, *yati* and *pāṇi* as constituent elements of *tāla*.[837] Even though each of these elements represents a particular aspect of *tāla* dynamics, taken together they present a balanced picture of the way *tāla* operated. It is nevertheless not clear whether this line was meant as a general definition of *tāla*, as accepted by Abhinavagupta.[838] Surprisingly, Abhinavagupta did not consider the opening verse of the *tāla* chapter (v. 1 *tālo ghana iti proktaḥ*) as a general definition of *tāla*, which, in fact, lends itself well for that purpose.[839] According to him, it sufficed Bharata thus far to work with the mnemonics such as *caccatpuṭa*, etc., which, as a matter of fact, indicate only the specific characteristics (*viśeṣa*) of a given *tāla* structure such as for example its specific number, measure and arrangement of syllables. But Bharata now presents a general definition of *tāla*, namely as 'the sum (or totality) of *yati*, *pāṇi* and *laya*' [techniques].[840] This fresh formulation or analysis of *tāla* at the end of the chapter is interesting and certainly true from a particular point of view. Nevertheless, there is reason to assume that the entire section on *laya*, *yati* and *pāṇi*, including the line defining *tāla*, is not original, but has most probably been appended to the *tāla* chapter with a view to upgrade and systematise its contents.

The interpretation of the final three sections on *laya*, *yati* and *pāṇi* at the end of the *tāla* chapter is challenging for several reasons.[841] What strikes one the most is that the topic of *laya* is taken up again when it has already been discussed earlier in the chapter (vv. 4-6). According to my understanding of this passage, the author now highlights another aspect of *laya*, which he uses as a theoretical basis for discussing the cognate notions of *yati* and *pāṇi*. Why do these discussions occur after the epilogue[842] and not somewhere before it? Are we dealing here with an entirely different layer of the text (including the epilogue), added later on during an attempt at upgrading and systematising the *tāla* system? For understanding how the individual sections relate to one another as well as to the rest of the *tāla* chapter, it is necessary to take a closer look at some of these issues.

---

[837] KSS v. 530cd *aṅgabhūtā hi tālasya yatipāṇilayāḥ smṛtāḥ*.

[838] In this regard, Bharata may have been guided by the tripartite analysis of *tāla*, very much reminiscent of the similar approach to Gāndharva, which too was tersely based upon three elements. See above n. 727.

[839] Another instance that is apt to be accepted as a general definition of *tāla* is KSS v. 7ab *kalākālapramāṇena tāla iti abhisaṃjñitaḥ*, because, in fact, it defines *tāla*, though in the sense of a measure.

[840] A.Bhā. on NŚ 31, 369cd (p. 283 ll. 6 f.): *caccatpuṭādibhir viśeṣas, tasyety āha - aṅgabhūtā hi tālasya yatipāṇilayā iti | yatipāṇilayasamūha iti tālasya sāmānyalakṣaṇam*. See further on NŚ 31, 6 (p. 154 l. 11): [...] *cintitaṃ sāmānyalakṣaṇaṃ tat tālasyādhyāyānte sthāpayiṣyate*; on NŚ 31, 368 (p. 283, ll. 1): *ata eva tālasya sāmānyalakṣaṇaṃ vācyam*; (*op. cit.*, l. 7) *yatipāṇilayasamūha iti tālasya sāmānyalakṣaṇam*. Cf. p. 284, ll. 25 f.

[841] Note that these notions have been mentioned earlier in the *tāla* chapter (vv. 453cd f.) and even more frequently in other chapters of the NŚ (cf. KSS 4, 298-30; 316-7; 5, 20ab, 63; 29, 101-6; 32 *passim*; 33, 85-99; 109-15).

[842] See KSS 31, 525cd-30ab; KM 31, 324-5; GOS 31, 367cd-69ab; BI 31, 480cd-85ab.

Considering the different nature and isolated treatment of these sections, one can indeed hardly escape the impression that we are dealing here with an entirely different layer of the text, especially because it occurs after the epilogue, which normally concludes a work or a chapter. Our suspicion about the authenticity of this section is strengthened by the inappropriate nature of the epilogue where *tāla* is primarily described as a supporting device, and not as a measuring device as generally proclaimed in the rest of the chapter.

9.6 Domain of applying *yati* and *pāṇi*

As a matter of fact, the notion of *laya* permeates all layers of music, dance and singing, whereas that of *yati* and *pāṇi* seems to be limited to the *dhruvā* songs performed during the junctures of the preliminaries (*pūrvaraṅga*) and the play proper. The contingency of accepting v. 530cd as a 'general' definition of *tāla*, involves a contradiction because it applies primarily, if not exclusively to the rhythmic organisation of the *dhruvā-s*, and not to the rest of the musical repertoire, including the formal *gītaka-s*, *vardhamāna*, etc. A plausible conjecture seems to be that the relatively modern definition has been inserted here suggesting that it is also applicable to the older music. What follows is a fuller discussion of the problem.

The chapter on drumming (*vādya*) states that *laya*, *yati* and *pāṇi* are to be performed "according to the rules of dramatic performances" (see below, n. 846). Even though drama proper is advanced as the domain of their application, we may assume that the latter was restricted primarily to those parts that involved musical activity. On the other hand, when the observance of the rules of dramatic performances is taken literally, then *laya*, *yati* and *pāṇi* have to be assumed to be applied in the *dhruvā-s*, because these were the only musical compositions that were performed profusely during (the junctures of) the play, unlike the formal compositions such as the *gītaka-s*, etc., which were as a rule performed before the play (though during the preliminaries). A closer examination of the passages where these tactics are mentioned, reconfirms this peculiar restriction to the *dhruvā-s*. It is clear that while the application of *laya* is possible in almost all aspects of music, dance and drama, that of *yati* and *pāṇi* is quite limited. As a matter of fact, the long and detailed treatment of compositions such as the *āsārita-s*, *vardhamāna-s*, the seven *gītaka-s*, the *catuṣpadā-s* and *lāsya-s*, does not contain any valid references to the latter two notions, whereas it abounds with those to the former. The only two areas where they are amply encountered are those of the *dhruvā* songs (in the *pūrvaraṅga* and *dhruvā* chapter) and drumming (in the *avanaddha* chapter). This restriction seems to suggest that *yati* and *pāṇi* were applied primarily, if not exclusively in the music of the *dhruvā-s*, which were performed during the preliminaries and the play proper, and not during the formal musical performance comprising the *gītaka-s*, etc.

Numerous changes of *laya* are encountered in the *gītaka-s*, but as such they are never indicated as *yati*, at least not in the Nāṭyaśāstra, but as *nivṛtti*, *upavartana*, *parivartana*, etc,[843] apparently because they involve repetitions. In the *aparāntaka* song, for example, when a portion of a text (from a particular limb) is repeated in half the tempo in a following limb, the latter is called *upavartana*. It should, however, be acknowledged that in medieval times attempts appear to have been made to relate these accelerated types of repetitions to the notion of *yati*. In this regard the 'historical' observations of the Saṅgītaśiromaṇi (1428 CE) are worth quoting: "In popular music (*deśī*) the regulations (*yati*) of *tāla-s* are called *dharaṇī*

---

[843] Dattila, on the other hand, does relate, e.g. the *srotogatā yati* to the *aparāntaka* song (Datt. 175b *madhye srotogatā yatiḥ*).

(support, vein). In traditional music (*mārga*) the repetitions of *tāla* were called *parivartana*. And a repetition occurring in words (*pada*) and phrases (*vākya*) is [also] a *parivartana*. The *dharaṇī-s* (may occur) in the middle or end of words, depending on the setting of *tāla*."[844]

Likewise the proportionate doubling (or halving) of tempo during successive grades or states of the *āsārita-s*, *vardhamāna-s* and other *gītaka-s* is never marked as *yati*, but as *dvikala* and *catuṣkala tāla* (or *dvisaṃkhyāta* and *trisaṃkhyāta*), *i.e.* the states of structural expansion obtained by respectively doubling and quadrupling the [number of gestures as well as the] original measures and units of time (*kalā*).

As regards the employment of *pāṇi-s* in the *gītaka-s* the earliest sources make no mention. To the best of our knowledge, there is only one instance where Abhinavagupta tries to apply the *pāṇi-s* in the *gītaka-s*. At one place (GOS 31, 208cd) the NŚ prescribes an *ekaka* (melodic phrase) in the *carurasra* limb (of the *oveṇaka* song) and a *vividha* at another (GOS 31, 287ef). Abhinavagupta tries to solve the discrepancy by conjecturing that the *ekaka* should be rendered in *avapāṇi* (or *atītagraha*), that means before the *caruraśra* limb commences, and the *vividha* within the eight *kalā-s* of the *caruraśra* limb.[845]

9.7 *Laya*, *yati* and *pāṇi* related to drumming

Since *laya*, *yati* and *pāṇi* constitute the basic ingredients for generating rhythmic variations, they have also been reckoned as specific tactics of drumming, and by implication also of music and dance in general. The *avanaddha* chapter, *i.e.* the chapter on drumming (*vādya*), clearly states that "*laya*, *yati* and *pāṇi* are based on drums; they should be performed in due order and in keeping with the rules of dramatic performances."[846]

From the description of some of the drumming techniques, inter alia, *yati* and *pāṇi*, it is clear that (1) a kind of polyrhythm was obtained when various types of drums started playing at different points and in differing tempos (KSS 33, 184-205), and (2) that tempo (*laya*) was the fundamental concept upon which *yati* and *pāṇi* were based. While *yati* relates to the temporal flow (even, accelerating, or decelerating), *pāṇi* refers to the principle of tempic interaction between the rhythmic and melodic sections (singing, *vīṇā*, flute, etc.). Both sections may be in phase (*samā*, simultaneous or 'even'), or out of phase (*i.e.* 'uneven') allowing the rhythmic section to start before (*uparipāṇi*) or after the melodic section (*avapāṇi*). On the specific role of drumming in this respect, and its contribution to achieving rhythmic balance (*sāmya*) in music and drama, see further § 7.3.3 on *tāla* and polyrhythm and § 4.8.

---

[844] Saṅgītaśiromaṇi XII, 188-8:
tālānāṃ yatayo deśyāṃ dharaṇya iti kīrtitāḥ
mārge tālavṛttayaḥ syuḥ parivartanasaṃjñakāḥ
padavākyagataḥ ceyam āvṛttiḥ parivartanam
padamadhye padānte vā dharaṇyas tālanirṇayāt
iti dharaṇyaḥ. Translation adapted from E. te Nijenhuis 1992, 355.

[845] See A.Bhā. on NŚ 31, 315 (p. 256, ll. 9 f.) *ity atraikaṃ caturaśraṃ cety uktam* | *tad etad atītagraheṇāvapāṇinā vā tatsvarūpātiriktaṃ kāryam*. See also N. Ramanathan 1999, 127.

[846] KSS 33, 91 (KM 34, 103; GOS 34, 117):
yatayaḥ pāṇayaś caiva layā vādyasamāśrayāḥ
yathākramaṃ hi kartavyā nāṭyayuktim avekṣya ca

vādyasamāśrayāḥ KSS *vai vādyasaṃśrayāḥ* KSS/KM *yathākramaṃ* KSS *°kāmaṃ* KM/GOS; *kartavyaṃ* KSS *kartavyā* KM/GOS; *°yuktim* KSS/KM *°śaktim* GOS *°yogam* 'Bha' (GOS ms.); *avekṣya tu* KSS *apekṣya ca* KSS/KM

9.7.1 *Laya*

Laya has first been introduced in vv. 4-6, but later on towards the end of the *tāla* chapter, it is repeated, though in a significantly different context. In the latter case it is enumerated along with *yati* and *pāṇi* (v. 530cd), and together they are presented as formal aspects (*aṅga*) of *tāla* (see above, n. 837). In contrast with the eponymous structural components, the formal components represent certain rhythmic or dynamic aspects of *tāla* and thus tell something about the pace, movement, speed and progression of a given *tāla* pattern or its components. *Laya* was initially discussed as an aspect of time (*kalā*), but now it is defined primarily as an aspect of rhythm, namely as tempo. The new definition (see below, n. 849) elaborates on the nature of *laya* as well as the factors that determine it, such as, for example, the even flow or speed of beats, words or notes. This approach seems to presuppose a metronomic precision that warrants the equidistance of beats in a given tempo, also noticeable in most other forms of world music.

In the new characterisation of *tāla* (v. 530cd), *laya* is mentioned first in a series of three formal factors (*aṅga*). From the treatment of the other two factors, *i.e.* *yati* and *pāṇi* (see following sections) seems that the notion of *laya* serves as their conceptual basis. Therefore, it is apparently because of this fundamental position that *laya* is treated again and first.

Laya was first described in the metrical context of *kalā* - the variable unit of time in *tāla* (see above, § 6.2.2), but here it is discussed in a purely rhythmic context, namely as tempo - the first requirement for displaying rhythmical skills such as tempic control and interaction. The ambivalent meanings of the word apparently forced the author to 'define' it twice at two different places.[847] Therefore, strictly speaking, according to the rules of Sanskrit poetics, Bharata appears guilty of committing a repetition. Abhinavagupta comes to his defence by considering the first instance a tentative attempt and the second as the actual definition. According to him there is no (blemish of) repetition because [the first definition] has the sole purpose of clarifying the meaning of [the word *laya* in] the phrase *kalāpātalayānvitam* (NŚ 31, 1b). "But later on", he says, "the author presents an extensive definition (of *laya* and its varieties) when discussing the general definition of *tāla*."[848] This is true, because towards the end of the *tāla* chapter, Bharata indeed defines *laya* as the evenness (*samatva*) observed in metres, words and syllables, which is caused by the [steady] pace of *kalā*-periods.[849] This definition is much fuller than the one given at the beginning of the *tāla* chapter. *Laya* is not caused by time and action alone, but by the aggregate of a number of factors. Thus aside from the rhythmic factor, *i.e.* the pace of beats, which is dependent on the unit of time (*kalā*) between succesive beats, it is also determined by poetical metre (*chandas*) and linguistic factors (*pada, akṣara*). Whether a melodic factor (*varṇa*) also played a role, cannot be confirmed here, but is also not denied from a musicological point of view, because *yati* (which is based on *laya*) also regulates *varṇa* (cf. v. 535cd). Whatever be the case, one thing is sure, namely that there was confusion about the factors determining *laya*. Śārṅgadeva, for example, (apparently due to a misreading of the NŚ or A.Bhā.) denies the linguistic factors, stating that 'the *laya* (observed) in syllables, words and sentences, does not apply here (*i.e.* in *tāla*).'[850]

---

[847] The repetition of KSS v. 4cd occurs in v. 531cd *trayo layāś ca vijñeyā drutamadhyavilambitāḥ*. However, it is introduced with a reference to the first occurrence (KSS v. 531ab *pūrvoktaṃ vai vidhānaṃ ca tac ca me sannibodhata*).

[848] A.Bhā. on NŚ 31, 5 (p. 153 ll. 12-6): *atha layānāṃ vibhāgam āha trayo layā iti* | *na ca viśeṣalakṣaṇam eṣāṃ vaktavyam ity āha vijñeyā iti* | *lokata eva* | *vibhāgaś cānirvyākhyāta eva* | *agrato lakṣaṇaṃ tālasāmānyalakṣaṇaprasaṅge vitatya bhaviṣyati* | *iha tu kalāpātalayānvitam iti sūtrārthodbhedakamātram etad ity apaunaruktyam** | [**apaunaruktyamātram* GOS °*uktyam* GOML Ms.]

[849] KSS vv. 534cd-35ab. *chandokṣarapadānāṃ tu samatvaṃ yat prakīrtitam* | *kalākālāntarakṛtaṃ sa layo nāma saṃjñitaḥ*. Commenting on NŚ 4, 301 Abhinavagupta rephrases these lines as follows: "The evenness (*sāmya*) of metre, syllables and words is (called) *laya* and it arises from the pace of *kalā*-periods; it is [also] threefold with differences such as *druta*, etc." Then referring to the parallelism between *laya, yati, pāṇi, mārga*, etc., he asserts that the three-foldness [of *pāṇi* and *laya*] also implies a difference of [three] *yati*, *mārga*, etc. (A.Bhā. Vol. 1 p. 193 f. ll. 23 ff. *chando 'kṣarapadānāṃ sāmyaṃ layaḥ* | *kalākālāntarakṛto drutādibhedas trividhaḥ* | *etac ca traividhyaṃ yatimārgādibhedasyāpy upalakṣaṇanam*).

Abhinavagupta and Śārṅgadeva have interpreted Bharata's definitions of *laya* and do not differ much in substance. They first paraphrase Bharata's *laya* as *viśrānti* 'rest' and *kalā* as *kriyā* 'gestural action'. Tempo is thus defined as the 'rest between [successive] beats'.

It should be recalled that *laya* was determined by the time between successive beats measured out by means of *kalā*, which in its turn was dependent on the 'way' or 'style' (*mārga*) in which the music or song was performed. Representing the temporal pace of gestural succession, *laya* figured as one of the most important factors of *mārga*; the slow tempo was applied in *dakṣiṇa*, the moderate in *citra* and the fast in *vārtika*. Later on Bharata clarifies that the *laya-s* become manifest in the *mārga-s* and that their manifestation assumes the forms of vocal or instrumental music, or both.[851]

Even though Bharata does not seem to deviate from the one to one relationship between *laya* and *mārga*, it is evident that it could not always be maintained in practice, for example, when certain *yati-s* were applied which required alterations of tempo (see further discussion below on 'conflict between *laya* and *yati*'). It is obviously due to this practical problem that some of the later authors openly relaxed the one-on-one relationship between *laya* and *mārga*. According to the gloss of the Bṛhaddeśī, for example, there are nine different ways of applying *laya-s* in the three *mārga-s* during the performance of the *gīti-s*.[852]

9.7.2 *Yati*

Derived from the root *yam* 'to restrain', the word *yati* in the first place indicates a form of regulation or control (534a *niyamo yo yatiḥ*).[853] Since this idea is said to be based upon the tempos (532cd *layasaṃśrayā*), we may assume that the latter were the object of control. In other words, *yati* indicates the regulation of the flow of tempo, of which three types were recognised: *samā* (even), *srotogatā* (current-like) and *gopucchā* (cow's tail-like) representing the even, accelerating and decelerating progressions of tempo respectively.[854] They were further correlated with the three performing styles (*i.e. citra*, *vṛtti* or *dakṣiṇa*) as well as the three types of music (i.e., vocal, instrumental or both).[855]

---

[850] SR 5. 46ab *layo 'kṣare pade vākye yo 'sau nātropayujyate*. See further N. Ramanathan (1999, 121 f.) who mentions the Saṅgītadarpaṇa as asserting the opposite.

[851] KSS v. 532ab *mārgeṣu vyaktim āyānti gītavādyobhayātmikām*. Dattila expresses the same idea by saying that "they (i.e., the *laya-s*) are applied in styles such as *dakṣiṇa*, etc." (Datt. 152b *eṣāṃ prayogo dakṣiṇādiṣu*).

[852] See Bṛhaddeśī Vol. 1, section 7, Anu. 113, pp. 126-9. Śārṅgadeva apparently also meant more than three *laya-s* when saying that there are 'several' *laya-s* due to the variation of *mārga-s* (SR 5. 45cd *mārgabhedāc cira-kṣipra-madhyabhāvair anekadhā*). For illustrations see Kallinatha's commentary on this verse (pp. 29 f.), parts of which have been discussed by P. L. Sharma (1992, 394) and Ramanathan (1999, 120 f.).

[853] In metrics the same word is used for the caesura, which also contributes to a form of rhythmic restraint. In Sanskrit literature, *yati* is also a common term for ascetics, i.e. those who have restrained their passions and abandoned the world (cf. MW Dict. p. 841).

According to Bharata, *yati* is the regulation of the [degree of] stretching (*prakarṣa*) of words (*pada*) and melody (*varṇa*), as well as that of the drum or time syllables (*akṣara*) and is known through [the control of] vocal and instrumental music.[856] The word *prakarṣa* here may also be interpreted as 'duration' or 'period', *i.e.* the variable object and ultimate effect of stretching. While KSS/KM read *°prakarṣa* 'disjunction', the K mss. read *°samāsa* 'conjunction'. This opposition does not necessarily involve a contradiction, because the regulation of tempi (*yati*) requires manipulation that includes increase as well as decrease. The *yati* definition may thus be explained as the regulation of the intensity in which the verbal, melodic and temporal (or rhythmic) elements of a composition were used. From the nature of the three elements of which the length or duration was controlled, follows that *yati* affected almost all sections of the musical performance, because *pada*, *varṇa* and *akṣara* seem to correspond to the textual (*pada*), melodic (*svara*) and rhythmic (*tāla*) aspects of *gāndharva* music respectively.[857]

Dattila eloquently narrowed down Bharata's verbose definition of *yati* to 'the gait of tempo' (154c *layayātam*) and Śārṅgadeva to 'the control of the flow of tempo' (SR 5, 46 *layapravṛtti-niyamo yatiḥ*). The essence of *yati* was thus epitomised to the control of tempo, which in fact affected the smallest musical units. Its increase (*prakarṣa*) or decrease, in fact, results in a change of tempo. As observed above, the change of the variable *kalā* unit of time also results in a change of *laya*, and *vice versa*. Thus by regulating the basic units of text (*pada*), melody (*varṇa*) and rhythm (*akṣara*), ultimately the control of *laya* was achieved. This is what *yati* is about, namely the control of the flow of tempo!

The early sources are vague about the course or intensity of the tempic flow. In *samā yati* it is almost evident that the flow is even, but in *srotogatā* and *gopucchā* this is more difficult to envisage. For determining the nature of a flow, Bharata divides the song or performance into three formal sections, namely a beginning, middle and a final section where the tempo could be altered. In *samā yati* the flow is called 'even' because the tempo, either slow, moderate or fast, remains the same throughout.[858] In *srotogatā* the flow from a given tempo to a faster one seems to indicate an acceleration,[859] though the idea of fluctuation cannot be ruled out completely. However, as regards *gopucchā* not much can be said because our text seems to be hopelessly corrupt,[860] except that Abhinavabhāratī and other sources indicate that it represents the opposite flow as *srotogatā*, viz. a deceleration.[861]

---

[854] One may compare the Sanskrit *yati-s* with the Western notions of sostenuto 'sustained', accelerando 'accelerating' and rallentando 'decelerating' respectively. See J. Grosset (Paris 1913), p. 300, col. 1 and E. te Nijenhuis 1970, 364.

[855] For understanding the nature and effect of *yati* and that of *laya* in particular, one should perhaps also see the sections on the *gīti* (style of singing) and *dhruvā* (songs) (as applied during the theatrical preliminaries) where the tempos and the ways of regulating and phasing them are amply illustrated. Cf. KSS 5, 184-215; 29, 76cd-80; 31, 453cd f.; GOS 32, 431-5, etc.

[856] KSS vv. 533cd-34ab *padavarṇaprakarṣāṇām akṣarāṇām athāpi ca | niyamo yo yatiḥ sā tu gītavādyādibhiḥ smṛtā.*

[857] Cf. Abhinavagupta who also explains *varṇa* as representing melodic contours such as *sthāyi*, etc., and *akṣara* as mnemonical drum syllables such as *jhaṇ*, *ṭu*, *ka*, *ṭa*, *tha*, etc. (A.Bhā. p. 284, l. 9 *gītavarṇānāṃ sthāyyādīnāṃ vādye cākṣarāṇāṃ jhaṇṭukaṭathādīnāṃ sambandīnāṃ yā layapravṛttir* [..]). See also above n. 838.

[858] Cf. KSS v. 535cd *ādyānte caiva madhye ca layavarṇapadaiḥ samā.*

[859] Cf. KSS v. 536 *kvacic caivāvatiṣṭheta kvacic caiva pradhāvati ... jñeyā srotogatā yatiḥ.*

Fortunately Śārṅgadeva (SR 5, 46cd-50ab) provides some examples, which somewhat clear up matters. Supplemented with the examples from Siṃhabhūpāla, we have about fifteen types of *yati-s*:[862]

Table 45 Fifteen types of *yati*

In *samā yati* the flows remain even:	1	slow-slow-slow
	2	moderate-moderate-moderate
	3	fast-fast-fast
In *srotogatā* the flows accelerate:	4	slow-moderate-fast
	5	slow-moderate-moderate
	6	slow-slow-moderate
	7	slow-slow-fast
	8	moderate-moderate-fast
	9	moderate-fast-fast
In *gopucchā* the flows decelerate:	10	fast-moderate-slow
	11	fast-moderate-moderate
	12	fast-fast-moderate
	13	fast-slow-slow
	14	moderate-moderate-slow
	15	moderate-slow-slow.

Kallinātha tried to explain *srotogatā* and *gopucchā* on the basis of their popular meaning:

> "[The musicological meaning of] *srotogatā* ('becoming a stream') is in line with its literal meaning because it is like a stream that first flows slowly, but then gets faster when the water in it increases. On the other hand, it is like a stream that is first broad by the swelling of the water, but then becomes shallow when here and there the water abates.[863] As regards *gopucchā* the same conformity to literal sense should be observed, [though] in a reverse order, that means that just like the tail of a cow it is extended (read: slim and longer) at the end."[864]

As regards *srotogatā*, Kallinātha considers two reasons for creating a flow, but in both cases the idea of acceleration is commonly present. As for *gopucchā* he refers to the reverse procedure, namely that of deceleration, which is indeed best illustrated by the stock example of the cow's tail, because it is broad (read: fast) at the base, but slimmer and longer (read: slower) towards the end.

---

[860] Cf. KSS v. 537 *gurubhir laghubhiś caivam api bhāvitam akṣaram* | *lambitā ... gopucchā ... yatiḥ.*

[861] Cf. A.Bhā. p. 284, l. 15 *srotovad gamanāt tathā yatir uktā, etadviparyayād gopucchā tādrūpyād eva.*

[862] Half the number of combinations for *srotogatā* and *gopucchā*, which are implied by Śārṅgadeva, have been supplied by Siṃhabhūpāla (see Sudhākara on SR 5, 46cd-50ab). For text and transl. see E. te Nijenhuis 1970, 364.

[863] Kalānidhi on SR 5, 46cd-50ab: *sroto yathā prathamaṃ vilambya jalasamṛddhau satyāṃ tataḥ śīghraṃ gacchati, yad vā prathamaṃ jalasamṛddhyā pravṛttaṃ srotas tatra tatra jalavyaye sati tato 'lpajalaṃ gacchati* | *tadvad anvarthā srotogatā* |

[864] Ibid. *gopucchāyā apy etad viparyayeṇānvarthatā draṣṭavyā* | *yathā goḥ puccham ante vistṛtaṃ bhavati tadvad iti bhāvaḥ* |

While the Nāṭyasarvasvadīpikā (15th century) still works with three *yati-s*, the number is gradually increased to five in the Saṅgītadarpaṇa (1625 CE), and to many more in modern times.[865] Notable are the so-called *mṛdaṅgā*, *ḍamaru* and *viśamā* varieties, which, in fact, are composite forms obtained by combining the three from Bharata. *Mṛdaṅgā* has slow tempi at the beginning and end, but a faster tempo in the middle. In that respect, it resembles the shape of a *mṛdaṅga* drum, which is characterised by its convex or bulging middle and may be explained as a combination of *srotogatā* and *gopucchā*. The *ḍamaru* shows the reverse flow of the *mṛdaṅgā* because of its characteristic concave or 'hour-glass' middle, and may thus be explained as a combination of *gopucchā* and *srotogatā*. It is also known as *pipīlikā* apparently because its middle resembles the slim waist of an ant. The *viśamā yati* constitutes a separate class because it represents all other odd forms or combinations.[866]

9.7.2.1 *Yati* and *mārga*

Contrary to Lath's contention (1988: 161) Bharata clearly indicates that the three *yati-s* and *mārga-s* were related to one another according to a fixed pattern (vv. 534cd-537).[867] Bharata further indicates that each *yati* was also related to a particular type of music:

mārga-style	**_Yati_-restraint**	**Music**
citra	*samā*	**v. 535ef** *vādyapradhānabhūyiṣṭhā* **'instrumental music predominates'**
vṛtti	*srotogatā*	**v. 536cd** *†vādyasrutaprathā†* **(?)**
dakṣiṇa	*gopucchā*	**v. 537cd** *geyabhūyiṣṭhā* **'singing predominates'**

It seems that the *citra* style was predominatly instrumental music and *dakṣiṇa* singing, but as regards *vṛtti* the reading is doubtful, though it is most likely that both instrumental and vocal music were predominant as will be seen below. Earlier in the text (NŚ 29) we come across a similar classification where instrumental music (or perhaps music in general) is said to be based on three styles[868] (*vṛtti*), viz. *citrā*, *dakṣiṇā* and *vṛtti*, which are characterised by instrumental music, singing and both respectively.[869]

Moreover, two lines that occur immediately after KSS 29, 100cd, are paraphrased in prose and an attempt appears to be made to clarify and complete the classification of the *vṛtti-s* (*i.e.*

---

[865] Cf. P. Sambamurthy, *South Indian Music*. Madras 1994 (7th edn.), p. 182.

[866] For illustrations with text examples and drum syllables see, for example, P. Sambamurthy, *ibid.*, pp. 176-82; Bhagavata Śaraṇa Śarmā, *Tāla Prakāśa*. Hathras 1973, 45-8; and Śaraccandra Viṣṇu Gokhale, *Layatālavicāra*. Mumbai 1979, 35-53.

[867] Lath apparently used the KM or GOS versions of the NŚ, which omit the passage from the KSS (vv. 535cd-37) where each *yati* is related to a particular *mārga*.

[868] The word *vṛtti* (f.) there appears to be used as a synonym for *mārga* (m.). Although there seems to be no clear-cut difference between these two words, it sometimes seems that the former particularly relates to the style of instrumental music and accompaniment and the latter to the musical style in general. Śārṅgadeva even seems to classify the *mārga-s*, inter alia, under the *vṛtti-s* (see SR 6, 165cd-70).

[869] GOS 29, 70cd-71 (KM 29, 72cd-73):

tisṛṇām api vṛttīṇāṃ yeṣu vādyaṃ pratiṣṭhitam	*yāsu* KSS 29, 100cd *yas tu* KM *yeṣu* GOS
tisras tu vṛttayaś citrā-dakṣiṇā-vṛtti-saṃjñitāḥ	Prose in KSS, *see below*, note 547.
vādya-gītobhayaguṇā nirdiṣṭās tā yathākramam	Prose in KSS, *see below*, note 547.

mārga-s). Aside from the 'type of music' (*vādya*)[870] and 'restraint' (*yati*), some other features are specified, namely the 'mode of expansion' (*tāla*), 'tempo' (*laya*), 'type of song' (*gīti*) and 'start' (*graha*):[871]

Table 46 Styles and rhythmic factors

Style	Music	Tempo	Expansion	Restraint	Start	Song type[872]
citra	[saṃkṣipta-]vādya	druta	eka-kala	samā	anāgata	[māgadhī]
vṛtti	gīta-vāditra[873]	madhya	dvi-kala	srotogatā	sama	[sambhāvitā]
dakṣiṇa	[gīta]	vilambita	catuṣ-kala	gopucchā	atīta	[pṛthulā]

Given the fact that this elaboration occurs only in the KSS version of the NŚ, and that the notion of *graha* (start) replaces that of *pāṇi*, it is most likely that it has been adapted from some post-Mataṅga source, which also substitutes *graha* for *pāṇi* (see below, § 8.6 on *pāṇi*). Even the Bṛhaddeśī, where a similar classification occurs, could have been such a source, though *pāṇi* is retained, but *graha* substituted by *avayava* (*i.e. ogha*, *anugata* and *tattva*).[874]

---

[870] As regards Vīṇā music the notion of *vṛtti* appears to follow a separate classification, of which the main modes of instrumental accompaniment (*vādya*) are called *tattva*, *anugata* and *ogha*. See below, n. 874 and further KSS 29, 102-6; KM 29, 78-80; GOS 29, 76-8; BI 29, 108-112.

[871] This passage is omitted in the KM/GOS/K mss. and the Abhinavabhāratī. A reconstructed version (acc. to the KSS (p. 338), GOS (pp. 101 & 133 f. = KSS version) and BI (p. 31) runs as follows:

tisro gativṛttayaḥ prādhānyena grāhyāḥ citrā-vṛttir-dakṣiṇā ceti | *tāsāṃ vādya-tāla-laya-giti-yati-mārga-pradhānyāni yathāsvaṃ vyañjakāni bhavanti*	*gativṛttayaḥ* KSS/BI *giti°* GOS p. 101 *gīta°* GOS p. 133; *dakṣiṇā* KSS/GOS *dakṣiṇāś* BI; *vādyatālalayagiti°* KSS/BI/GOS p. 133 *tālagitilaya°* GOS p. 101; *vyañjanāni* KSS/BI *vyañjakāni* GOS
tatra citrāyāṃ saṃkṣiptavādyaṃ tāladrutalayasamā yatiḥ, anāgatagrahāṇāṃ prādhānyaṃ	*saṃkṣiptavādyaṃ tāladrutalayasamā yatiḥ* KSS {*°vādyatāladrutalayasamāyatir* GOS} *saṃkṣiptavādyaṃ [māgadhī gitir, ekakala-]s tālo, druto layaḥ, samā yatiḥ* BI; *pradhānaṃ* GOS p. 134
tathā vṛttau gitavāditradvikalatālamadhyalayasrotogatā yatiḥ, samagrahamārgāṇāṃ prādhānyam	*gitivāditradvikalatālamadhyalayasrotogatā yatiḥ* KSS {*gitavāditra°* GOS p. 101} *[sambhāvitā] gitiḥ, . vāditraṃ, dvikalas tālo, madhyo layaḥ, srotogatā yatiḥ* BI; *samagra-mārgāṇāṃ* KSS *samagrahamārgāṇāṃ* BI
dakṣiṇāyāṃ giticatuṣkalatālavilambitalayagopucchā yatiḥ, atītagrahamārgāṇāṃ prādhānyam	*giticatuṣkalatālavilambitalayagopucchā yatiḥ* KSS/GOS {*°gopucchikāyaty* GOS p. 134} *[pṛthulā,] gitiś, catuṣkalas tālo, vilambito layo, gopucchā yatir* BI

[872] The *gīti-s* are not specified here, but from other passages in the NŚ (as well as other sources) we may infer that *māgadhī* relates to *citrā*, *sambhāvitā* to *vṛtti* and *pṛthulā* to *dakṣiṇā*. Cf. KSS 5, 184cd-87; 29, 76cd-80; 31, 453-5; GOS 32, 431-4 (om. in KSS) and Bṛhaddeśī 1, section 7 (vol. I, pp. 118-29).

[873] The word *gīta-vāditra* 'song-instrument' in KSS seems to subscribe to the view that the music in *vṛtti* contained a balanced distribution of singing and instrumental music.

[874] Cf. Bṛhaddeśī Vol. I, p. 122: [Anu. 108] *dakṣiṇāvṛttiś citreti vṛttayo gītobhayavādyaprādhānyavaśāt pratītāḥ* \| *gītapradhānā dakṣiṇā vṛttiḥ, ubhayapradhānā vṛttir vṛttiḥ, vādyapradhānā citrā vṛttiḥ* \|

Both sources nevertheless agree that instrumental music predominates in *citra* style, singing in *dakṣiṇa*, and that instrumental music and singing are equally important in *vṛtti*.

9.7.2.2 Conflict between *laya*, *yati* and *mārga*

The classification discussed above indeed appears systematic, at least theoretically, but in a practical way there are some problems, such as for example the apparent conflict between *laya*, *yati* and *mārga*. We shall further see that a part of the classification is artificial and only serves a classificatory purpose, because in practice *laya* could be altered any time required.

Since each *mārga* is formally related to a particular *laya*, a particular *yati*, etc., it is difficult to explain the inevitable changes of *laya-s* occurring in the *srotogatā* and *gopucchā* *yati-s* where in a given style the tempo changes a number of times, either accelerating or decelerating. The solution lies perhaps in the fact that the parallelism between the factors of *mārga*, as suggested above, was not absolute. Some of the elementary factors of *mārga* such as the tempo and mode of expansion (*tāla*), are indeed related and interdependent, and naturally presuppose connectedness during the performance. Thus as a basis or starting point of performance it is conceivable that this connectedness or relationship was fully observed. However, when the dynamic play of rhythm sets in, this relationship was immediately given up. As I have argued earlier, *yati*, *pāṇi* and *graha* constitute a separate category of rhythmic tactics, which were specially applied to variegate the dynamics of a musical performance. Thus when the *srotogatā* or *gopucchā yati-s* were applied to create the sense of acceleration or deceleration, the basic *laya* of the respective *mārga* had to be given up, at least temporarily.

This lively procedure is reflected by the flexible application of the main sections of the music ensemble. It should be noted that while in fact all sections were active in each *mārga*, instrumental music dominated only in *citra*, singing in *dakṣiṇa*, and none in *vṛtti*. The words *pradhāna* or *prādhānya* clearly indicate this relationship. Moreover, the word *°guṇā* in KM 29, 73 (see above, n. 543) also conveys the same idea, though primarily from a philosophical point of view. In the Sāṃkhya system, for example, the presence of a particular *guṇa* (quality) does not exclude that of others, but only shows the predominance of the former.[875] Abhinavagupta therefore clearly states that (each of) the three tempos is said to be the subject matter of the respective *yati-s* as the predominant (tempo), because in reality all three *laya-s* occur in each of the three *yati-s*.[876] Śārṅgadeva explains *vṛtti* as the musical practice [read:

[Anu. 109] *idānīṃ prādhānyaṃ jñāpayati pāṇikṛtaṃ vivartitam | tad uktam - tāla[gītilaya]yatimārgaprādhānyāny āsāṃ yathāsvaṃ vyañjakāni bhavanti |*

citre samā yatiḥ, druto layaḥ, uparipāṇiḥ, māgadhīgitir, ogho 'vayavaḥ |
vārtike srotogatā yatir, madhyo layaḥ, samapāṇiḥ, sambhāvitā gitir, anugataṃ cāvayavaḥ |
tad dakṣiṇe gopucchā yatiḥ, vilambito layaḥ, avapāṇiḥ, pṛthulā gītis, tattvaṃ cāvayavaḥ |

For a different reading with translation and comments see E. te Nijenhuis 1970, 156 ff. Compare also the parallel passages from the SR (6, 165cd-70) and S.Rāja (2, 1, 4, 380-5), which are translated by E. te Nijenhuis (1970, 158 ff.).

[875] Cf. Sāṃkhyakārikā 46:

eṣa pratyayasargo viparyayāśaktituṣṭisiddhyākhyaḥ
guṇavaiṣamyavimardāt tasya ca bhedās tu pañcāśat

[876] A.Bhā. on NŚ 31, 372 (p. 284, ll. 16 f.): *tatrāsāṃ krameṇa drutavilambitamadhyāḥ prādhānyāśayena viṣaya ucyate | paramārthatas tisrasv api tisra iti.* For a different interpretation, see Lath 1988, 162.

style] which is characterised by the mutual subordination (*guṇa*) and domination (*pradhāna*) of the sections of a musical ensemble.[877]

9.7.3 *Pāṇi*

9.7.3.1 Introduction

Pāṇi, the notion of the interaction of tempo between singing and instrumental music, has been mentioned above as the third and final formal element constituting *tāla*; it is also closely linked to *laya*. As a matter of fact, it constitutes one of those problematic issues, which have been misunderstood by the post-Bharata tradition as well as by modern scholars.

Bharata distinguishes three varieties, viz. *samapāṇi, avapāṇi and uparipāṇi*, because of their correlation with *laya* (see vv. 538ab-42). However, the corrupt nature of this passage seems to have led to considerable confusion and misinterpretation of *pāṇi*. Some authors even identified it with *tāla* itself, or mistook it for *graha*, *i.e.* the relatively late notion of syncopation or phased synchronisation, which exploits the different phases in which the song, instrumental music and drumming (read: *tāla*) commence in relation to one another. In this respect we also examine the performance of the *āśrāvaṇā nirgīta* during the theatrical preliminaries (*pūrvaraṅga*), because *pāṇi* is applied there in correlation with *laya*. This excursus may clarify the obscure relationship between *pāṇi* and *laya*, and help in understanding the *pāṇi* section of the *tāla* chapter. In the present section we address the relationship between *pāṇi* and *laya*, as well as other problematic identifications of *pāṇi* with *tāla* and *graha* as observed in some later sources.

9.7.3.2 *Pāṇi* and *tāla*

The first point of discussion is the controversial identification of *pāṇi* with *tāla* in some later sources, such as, for example, the Dattilam and Abhinavabhāratī. As such the word *pāṇi* literally means 'hand', which however could not have been intended by Bharata in the pertinent context of NŚ 31 because we know that it denotes a complex technical tactic, though admittedly the involvement of the hands there cannot be ruled out. The word also occurs in one of the most popular *tāla-s* from the ancient period, namely *pañcapāṇi,* here too the association with five hands remains to be explained, though again the involvement of hands cannot be denied.[878] The association of the hands with *tāla* is natural and indeed very important, as has already been discussed above, in ch. 4. It should be recalled that while corroborating the popular etymology of *tāla*, namely that it originates from the palm of the hands,[879] Abhinavagupta cited a verse from the Dattilam where *tāla* is straightforwardly identified with *pāṇi* (?).[880] Bharata too relates *pāṇi* to *tāla*, but only as one of its formal aspects (530cd), which, like *laya*, *yati*, etc., was applied in *tāla* (and drumming) because it formed part of a general rhythmic balance (*sāmya*).[881] Dattila, on the other hand, identifies them, but without clarifying their relationship.[882] Abhinavagupta follows Dattila and (referring to KSS v 538ab) states that *pāṇi* is called *tāla* because it manifests the latter (i.e., *tāla*, rhythm).[883] He explains that even though any kind of action could be used to indicate quickness, slowness, etc., Bharata explicitly employed the word *pāṇi* 'hand' because only specific movements of the hand and fingers [including those used in playing harps and drums] are useful for realising 'unseen results' (*adṛṣṭaphala*).[884] This popular explanation is not satisfactory because it implies that other factors which too contribute to the manifestation of *tāla* and the realisation of rhythmic balance, are also identifiable with *tāla*. In other words, this identification may be true from a philosophical or classificatory point of view,[885] but not musicologically because not only *pāṇi* makes up *tāla* or *sāmya*, but all its factors together.[886]

---

[877] SR 6, 165cd f.: *vṛttir guṇapradhānatvarūpā vyavahṛtir matā.* See further Kallinātha's comments.

[878] Amarakoṣa 1, 7, 9cd *tālaḥ kālakriyāmānaṃ, layaḥ sāmyam.* See in particular the Vyākhyāsudhā comment on it: *gīti-vādya-pādādinyāsānāṃ kriyākālayoḥ sāmyaṃ layaḥ.*

[878] Confusion between *graha* and *pāṇi* may have started already with Dattila. According to him the three *pāṇi-s* are so termed because in them the beats (*pāta*) are successively simultaneous with, prior to and after [that of] music, words and melody (153cd f. *samaṃ copari pātas tu yad vādhaḥ saṃsthitaṃ bhavet* | *vādyaṃ padāni varṇo vā tad evam abhidhīyate*). However, contrary to Lath's assertion (1988, 160), Bharata does not mention beat (*pāta*), but the tempo (*laya*) of drumming as a point of reference. See the vv. from ms. M (*layena yat samaṃ...*; *layād yad avakṛṣṭaṃ...*; *layasopari vādyaṃ syāt...*).

[878] See vv. from ms. M after KSS v. 538ab.

[878] Cf. GOS 34, 113-5 (see above n. 506); Bṛhaddeśī Vol. I, p. 122: [Anu. 108] (see above n. 874) and SR 5, 52cd *layāḥ kramāt samādau syur madhyadrutavilambitāḥ.*

Against this light it is evident that *pāṇi* in the ancient period stood for a notion of tempic interaction, and that Dattila's odd equation of *pāṇi* with *tāla* is too narrow and therefore not proper,[887] and may on that account be best explained as caused by a possible break in the text. Accordingly, Lath's conclusion (1988: 160) that *pāṇi* in a broad sense denoted the entirety of *gāndharva-tāla*, also stands unsubstantiated by the oldest authority in the field musicology, the NŚ.

---

[878] A.Bhā. on NŚ 31, 377 (p. 286, ll. 14-6): *anye tv avapāṇiṃ vilambite, uparipāṇiṃ drute viniyuñjate* |Cf. in this regard the 'five hand-strokes' (*pañcapāṇiprahata*) or five ways of striking the hands on the surface of drums (BI 33, 43 *pañcapāṇi-prahatam iti yad uktam samapāṇir, ardhapāṇir, ardhārdhapāṇiḥ, pārśvapāṇiḥ, pradeśinī ceti*). What strikes one the most is the play of words resembling both the name of *pañcapāṇi tāla* as well as that of *samapāṇi*.

[879] A.Bhā. IV (p. 152. l. 8): *tale bhavas tāla ity api niruktam uktam*; (p. 162. ll. 11 f.): [...] [1]*pañcapāṇir iti hi tālaḥ | tathā hi karatalaparicchedarūpatvāt tale bhavatīty api tālaśabdaḥ kaiścin niruktaḥ |*
[[1]*pañcapāṇir* GOS *pañca pañcapāṇir* GOML ms.]

[880] *Ibid*. ll. 12 f.: .... *dattilo 'py āha - 'tatra tālaṃ ca pāṇiṃ ca prāhur ekaṃ* (cf. Datt. 153ab). See also *op. cit.*, p. 284. ll. 22 f.

[881] A.Bhā. on NŚ 34, 36-40 (p. 414, l. 5): *samapāṇyāditrayam iti sāmyāṃśāt tāla upayujyate |*

[882] Datt. 153: *tatra tālaṃ ca pāṇiṃ ca prāhur ekaṃ manīṣiṇaḥ samaṃ coparipātas tu yad vādhaḥ saṃsthitaṃ bhavet*. The explanation offered by E. te Nijenhuis (1970, 363) is not convincing.

[883] A.Bhā. on NŚ 4, 301 (Vol. 1 p. 193 ll. 22 f.): *samapāṇir uparipāṇir ardha(r ava)pāṇiś ceti tridhāpāṇiḥ tālaḥ | tad abhivyaṅgyatvāt | saṅgītanṛttābhyāṃ saha yā (vā) pūrvaṃ veti tridhā*; Kallinātha (ad SR 5, 50-2) also supports this view (*atra pāṇiśabdena tālo lakṣyate | tadvyāpāreṇa tasyābhivyaktatvāt*). Cf. E. te Nijenhuis 1970, 361.

[884] A.Bhā. on NŚ 31, 372 (p. 284, ll. 20-4): *tatra ciraśīghratādau kriyā yā kācid apy upāyas tathā niyamādṛṣṭa(phala)siddhaye viśiṣṭahastāṅgulakriyaivopayoginī | sā ca pāṇiśabdenoktā | tadāha dattilaḥ - tatra tālaṃ (ca) pāṇiṃ ca prāhur ekam iti* | Cf. Lath 1978, 362.

[885] It has to be admitted that Abhinavagupta tries his best to identify a number of factors (i.e., *laya*, *tāla*, *pāṇi*, *kalā*, *kāla* and *kriyā*) with *tāla*.

[886] When interpreted in this sense, verse 530cd could be rendered as follows: "Factors such as *laya*, *yati*, *pāṇi*, (etc. [together] make up *tāla*."

[887] Mukund Lath (1988, 161) had also noticed this inconsistency in the Dattilam and Abhinavabhāratī, but following the former, he had to stick to its defence.

9.7.3.3 *Pāṇi* and *laya*

The correlation between *laya* and *pāṇi* is approached from two different angles: (I) The medium tempo is taken as the point of departure to determine in which *pāṇi* the instrumental music is 'slower', 'even' or 'faster'; (II) The slow tempo is accepted as a standard of time and space to indicate how many times a phrase (viz. *sannipāta*) is repeated in a given *pāṇi*, viz. once, twice or four times respectively.

(I) Bharata introduces the *pāṇi-s* as rhythmic techniques, which are manifested by the 'grasp' or (tempic) interaction (*graha*) between singing and instrumental music:[888]

> <M₂> "When the instrumental music [moves] 'evenly' with the tempo (*laya*) [of the song], it is called the 'even' *pāṇi* (*samapāṇi*); <M₃> but when [it moves] 'slower'[889] than the tempo [of the song], it is called the 'lower' *pāṇi* (*avapāṇi*); <M₄> and when it is 'above' [read: faster] than the tempo [of the song], it is (called) the 'upper' *pāṇi* (*uparipāṇi*)."[890]

Table 47 Relative speed in *pāṇi-s* with the medium tempo as a standard.

Pāṇi	Laya	
Uparipāṇi	druta	2 x faster
Samapāṇi	madhya	Even
Avapāṇi	Vilambita	2 x slower

Uparipāṇi is thus linked to *druta*, *samapāṇi* to *madhya* and *avapāṇi* to *vilambita laya*. The *pāṇi-s* have been described primarily in terms of *laya* as related to that of *gīta* (singing) and *vādya* (instrumental music). Since the manifestation of tempo is closely correlated with the dynamics of singing, it is apt to be identified by the latter. Abhinavagupta therefore explains that the word *laya* as used in the verses quoted above, is (also) called *gīta* 'singing' because it refers to it.[891] Since singing was the most dominant factor in ancient music, it was the deciding factor that sanctioned the application of certain techniques. Bharata therefore concludes that the experts should apply *yati*, *pāṇi* and *laya* after due consideration of their propriety in singing.[892]

---

[888] KSS vv. 538ab, M₁ *samapāṇy avapāṇiś ca tathā c̲oparipāṇikam* | *pāṇis tu trividho jñeyo gītavādyag̲r̲aheṣv atha*. The *lectio facilior* here is obviously represented by *gītavādyasamāśrayaḥ* (KM330b; GOS 373d, as adopted by Ghosh BI 494ab) and *gītavādyakriyāgataḥ* (K mss.). While the former relates that *pāṇi* is based on *gīta* and *vādya*, the latter seems to emphasise its dynamic aspects, namely that *pāṇi* relates to the exercise (or action) of *gīta* and *vādya*. Although these variants make good readings the *lectio difficilior* (ms. M) is preferable here - despite its apparent corruption and isolated occurrence - because it relates *pāṇi* to the cognate notion of *graha*.

The reading *gṛha*° (ms. M) in the present context makes little sense and may best be explained as an orthographical error for *graha*°. One may compare *gṛhamokṣe* (KSS 31, 483b) against *grahamokṣe* (K mss. and BI 31, 433d; om. in KM/GOS). See also above footnote no. 767 where the word *gṛhamokṣe* (KSS 33, 111ab) is again encountered against *grahamokṣe* (KM 34, 127ab; GOS 34, 141ab; BI 33, 123ab).

[889] The idea conveyed by *avakṛṣṭa* ('dragged down/removed/made inferior') is that the entry of the drums is made to 'precede' that of the music. In other words, the drumming is earlier than or prior to the music. Cf. Ramanathan 1979, 132.

[890] Vv. M₂₋₄ (following KSS vv. 538ab, M₁) layena yat samaṃ vādyaṃ samapāṇis sa ucyate
layād yad avakṛṣṭaṃ tu so̲'̲vapāṇis tu saṃjñitaḥ
layasopari vādyaṃ syāt tathā coparipāṇikam

[891] Cf. A.Bhā. on NŚ 31, 374 (p. 285, l. 11): *tatra laya iti tātparyatvād gītam ucyate*. There has been a tradition of naming certain songs or genres after the rhythm or tempo they were based on. See further Ramanathan 1999, 126, n. 2.

Another passage in the *tāla* chapter where the intimate relationship between the *pāṇi-s* and *laya-s* appears to be reinforced is hopelessly corrupt, so that their correlations remain unclear. Nevertheless, some manuscripts ($\text{K}_{1\text{-}6}$) confirm that *avapāṇi* should be related to *vilambita*, the slow tempo, but others (KSS) relate it to *druta*, the fast tempo.[893] Similarly, the correlation between the two remaining *pāṇi-s* and their *laya-s* is also impossible to determine on the basis of the current readings.[894]

However, an earlier passage from the NŚ relates the *pāṇi-s* in the same way to the *laya-s* as indicated above, along with other factors of *mārga*, such as *yati*, *graha*, etc.[895]

Style	Interaction	Tempo	Music	Expansion	Restraint	Start
Citra	uparipāṇi	druta	vādya	eka-kala	samā	anāgata
Vṛtti	samapāṇi	madhya	gīta-vādyobhaya	dvi-kala	srotogatā	sama
Dakṣiṇa	avapāṇi	vilambita	gīta	catuṣ-kala	gopucchā	atīta

The correlation and interactions between the tempos (*laya*) of singing (*gīta*) and instrumental music (*vādya*) evidently effected the measurement of time (*pramāṇa*), the constituent syllabic units of time (*kalā*) as well as the resulting phrases or patterns - sometimes called *sannipāta*. In order to reinforce the basic tenet that a change of tempo requires a proportionate adjustment of the *kalā* – the time between two subsequent beats,[896] Bharata explains that the intimate relationship (*samavāya*) between the time-syllables in *yati* and *pāṇi*, make up the tempo (*laya*) and that the measure of these (time-syllables or *kalā-s*) changes in the slow and succeeding tempos.[897]

Bharata seems to have been aware of the fact that when these changes were not restricted, many more *pāṇi-s* could be formed than only those three mentioned by him. He therefore solemnly states that he does not prescribe higher measures of *kalā-s* (than those already set for the three standard *laya-s* recognised by him).[898] This seems to suggest that Bharata adhered to the proportionate changes of tempo from single speed to double, quadruple, etc. This is unlike the more practical and attractive changes of tempo in present times by the phased and disproportionate increase or decrease of the time between beats with just a fraction of a *kalā*.

---

[892] KSS vv. 543cd-44ab *yatayaḥ pāṇayaś caiva layāś caiva prayoktṛbhiḥ | yathākramaṃ hi kartavyaṃ gītayuktim avekṣya ca*. Cf. above n. 846.

[893] Cf. KSS v. 541 *yā tatra cāntarakalā druta eva layo hi saḥ | so_'vapāṇis tu vijñeyas tajjñair sthitalayāśrayaḥ* [*drutalayā°* KSS/GOS *sthitalayā°* $\text{K}_{1\text{-}6}$] The apparent contradiction in this point led Abhinavagupta to conclude that some authorities connect *avapāṇi* to the fast tempo and others to the slow tempo. A.Bhā. on NŚ 31, 377 (p. 286, ll. 14-6): *anye tv avapāṇiṃ vilambite, uparipāṇiṃ drute viniyuñjate |*

[894] Cf. KSS v. 542 *madhye ca yāntarakalā . . . drukule(?)ca yā | upary upari pāṇiś ca saṃjño yo vādyasaṃśrayaḥ*.

[895] Cf. GOS 34, 113-5 (see above n. 506): Bṛhaddeśī Vol. I, p. 122: [Anu. 108] (see above n. 874) and SR 5, 52cd *layāḥ kramāt samādau syur madhyadrutavilambitāḥ*.

[896] The intimate relationship between *laya* and *kalā*, two virtual synonyms for time, has already been discussed. See above §§ 3.1 and 8.2.

[897] KSS vv. 538cd f. *yatipāṇyakṣarāṇāñ ca samavāyo layo bhavet | sthitāl layāt prabhṛty eṣām pramāṇaṃ parivartate |*

[898] KSS v. 543ab *ataḥ ūrdhvaṃ kalānāṃ tu pramāṇam na vidhīyate*.

(II) The other approach to correlate *laya* and *pāṇi* is from the point of view of time and space with the slow tempo as a standard. Note that because of the change of perspective, the 'neutral' position of *samapāṇi* is shifted to *avapāṇi*. The slow tempo (of singing) there serves now as the standard to relate the time and space of the other *pāṇi-s*.

The changes of *laya* naturally created a discrepancy of time and space because a given track (read: measure or pattern) was covered in a shorter or larger duration of time. Bharata explains how the inherent incongruity could be resolved by allowing repetition of certain phrases or lines, which he calls *sannipāta* (vv. 540, K). Although the term *sannipāta* generally denotes one of the audible beats (*saśabda*), performed by clapping with both hands, it is used here in the sense of a phrase or structural unit that terminates on a *sannipāta* beat, comparable to a *pāda* in poetry or *mātrā*-line in *tāla*, made up of syllables, etc.[899]

The main difference between the three standard tempos (*i.e. vilambita, madhya, druta*) lies in the specific measure of time (*kalā*) between two subsequent beats. Bharata points out that this measure of time (*kalā* = *laya*) should be reduced in subsequent *pāṇi-s*.[900] In other words, the speed in *vilambita, madhya* and *druta* is doubled in each following tempo, because their respective *kalā* is halved in each following tempo. This means that the textual or melodic phrase is rendered in a much smaller measure of time, so that the remaining time could be filled up by one or more repetitions. Bharata then applies this procedure to the *pāṇi* interactions between singing and instrumental music, but translates the increase of tempo in terms of the number of repetitions necessary to complete a musical phrase (viz. a *sannipāta*). When one assumes that in the slow tempo the song as well as the accompaniment are in phase and cover a *sannipāta* phrase in the same measure of time, it follows that during *pāṇi* interactions the tempo of accompaniment is increased proportionately. In other words, two *sannipāta* phrases have to be rendered in the middle tempo and four in the fast tempo.[901]

Table 48 Relative space and time in *pāṇi-s*, with the slow tempo of singing as a standard

Pāṇi	Laya				
UparipāṇI	druta	1st *sannipāta*	2nd *sannipāta*	3rd *sannipāta*	4th *sannipāta*
SamapāṇI	madhya	1st *sannipāta*		2nd *sannipāta*	
AvapāṇI	Vilambita	One *sannipāta*			

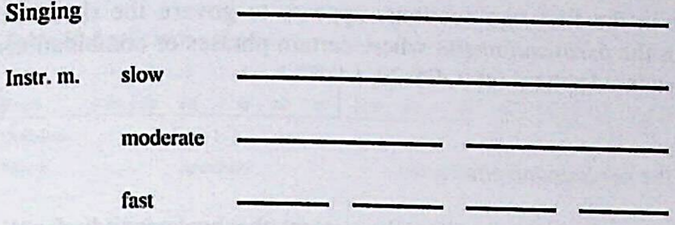
This idea may be illustrated by visualising the *sannipāta-s* as parallel lines. Their equal length indicates that singing and instrumental music perform the same measure of time, whereas the breaks indicate their relative tempo, the number of phrasal repetitions and density of composition. In *avapāṇi* these lines run parallel and continuously which indicates that the tempo of singing and instrumental music is slow, but even. In *samapāṇi* and *uparipāṇi* the instruments will have to be respectively two and four times faster than the singers.

---

[899] Notably, the *sannipāta*, as a standard unit, is not used in the description of the *āsārita, vardhamāna* and *saptarūpa*, but only in that of the *dhruvā, catuṣpadā* and *lāsya*. Its application in the present section on *pāṇi* again reinforces my thesis that the topics of *yati* and *pāṇi* belong to the *dhruvā* songs and not to the *gītaka-s*, etc.

[900] KSS v. 539cd *hāniḥ kalānāṅ kāryā tu śeṣeṣv anyeṣu pāṇiṣu.*

[901] KSS v. 540; K *tatra sthitalayo yo vai sannipāto bhaved atha*
sa tu madhyalayaṃ prāpya sannipātadvayaṃ bhavet
drutaṃ cāpi layaṃ prāpya sannipātacatuṣṭayam



From the point of view of aesthetics, these procedures were apparently considered appealing, because the tension created by the purposefully generated incongruity of tempos, was also resourcefully resolved. The repetition of text and melody as well as their increased density certainly enhanced the charm of the performance from a rhythmic point of view.

9.7.3.4 The application of *pāṇi-s* in the *āśrāvaṇānirgīta*

For some ideas about the actual application of *pāṇi* we may turn to Bharata's description of the *āśrāvaṇā nirgīta*, which was performed during the *āśrāvaṇā* limb of the theatrical preliminaries (*pūrvaraṅga*).[902] Even though the text is extremely corrupt, it is obvious that this composition comprised three sections (called *khaṇḍa-s* by Abhinavagupta) and is structured by a *tāla* pattern (of about twenty-two beats) divided into three sections (called *vidārī* by Abhinavagupta).[903] Bharata further illustrates the rhythmic/syllabic structure of the composition by means of the arrangement of mnemonic syllables, to which Abhinavagupta even supplies a text example:[904]

Table 49 Structure and sections (*khaṇḍa*) of the *āśrāvaṇānirgīta.*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Section I																								
Syll. structure	S	S	I	I	I	I	I	I	I	I	S	I	I	S	S	I	I	I	I	I	I	I	I	S
Mnemonics	jhaṇ	ṭuṃ	ja	ga	ti	ya	va	li	ta	ka	jaṃ	bu	ka	jhaṇ	ṭuṃ	ti	ti	ca	la	ghu	ca	ti	ti	cā
Text	Śaṃ	bhūṃ	pra	ṇa	ma	ta	ma	ma	ki	la	mā	na	sa	mā	śrā	va	ṇa	mi	ha	kṛ	ta	hṛ	da	ye
Section II																								
Syll. structure	S	S	I	I	I	I	I	I	I	I	S	I	I	S	S	I	I	I	I	I	I	I	I	S
Mnemonics	diṅ	gle	ga	ṇa	pa	ti	pa	śu	pa	ti	jaṃ	bu	ka	diṅ	gle	va	ra	bhu	ja	di	gi	ni	gi	cā
Text	bha	draṃ	va	sa	ti	pa	da	ka	ma	la	pū	ja	na	yo	gā	di	ti	su	ta	na	ta	ma	ku	ṭe
Section III																								
Syll. structure	I	I	S	I	I	I	I	S	I	I	I	I	I	I	S									
Mnemonics	ti	ti	cā	di	ni	ni	gi	cā	pa	śu	pa	ti	ti	ti	cā									
Text	va	ra	daṃ	sa	hi	śa	ra	ṇaṃ	bha	va	ti	va	na	pa	daṃ									

Note how the first two sections are made up of two identical phrases (shaded in the table above), separated by two short syllables. The third section actually comprises three long syllables (S), which are preceded by, two, four and six short syllables respectively. The repetition of phrases, at least in the first two sections, appears to govern the rhythmic organisation of *vīṇā* playing in the *āśrāvaṇānirgīta* where certain phrases or combinations were also repeated according to a fixed pattern (cf. GOS 29, 84).[905]

---

[902] See GOS 29, 84-88; KM 29, 83-90; KSS 29, 120-124.

[903] Abhinavagupta attests to the fact that at least some ancient authorities - probably including Bharata - analysed the āśrāvaṇā composition and rhythm in a tripartite fashion. A.Bhā. p. 107 ll. 4 f. anyais tu dhruvā trikhaṇḍā kṛtā, tālas trikhaṇḍaḥ kṛtaḥ l

[904] For a fuller treatment see Ramanathan 1999, 369-381

9.7.3.5 The beat structure(s) of the *āśrāvaṇānirgīta*

Bharata describes the application of *pāṇi-s* consistently against the background of *tāla* cheironomy, but the number and order of beats accompanying *āśrāvaṇā* remain a problem because the readings are problematic on crucial points.[906] This has led to numerous speculations and reconstructions as attested to by the testimonies of Abhinavagupta and Śārṅgadeva (SR 6, 187ab-99). According to their reconstruction of the text, twenty-two beats make up the rhythmic structure of the composition: first three *śamyā* and three *tāla* beats,[907] then two *śamyā* and two *tāla* beats, followed by one *śamyā* and one *tāla*. Finally fixed patterns of six and four beats occur, which constitute the standard beat structure of *uttara* and a *cañcatpuṭa* respectively.[908] According to Abhinavagupta the two triplets of *śamyā* and *tālā* were rendered in *uparipāṇi*, the following two duets in *samapāṇi*, followed by the single duet of *śamyā* and *tāla* in *avapāṇi*. Finally an *uttara* and a *cacatpuṭa* pattern occur, of which the specific *pāṇi* is not indicated. In the latter case one would expect that no specific *pāṇi* was intended, but Abhinavagupta seems to have interpreted Bharata's silence as consenting to a continuation of *avapāṇi* - the preceding *pāṇi*.[909] It seems that the *pāṇi-s* were applied to certain groups of beats, *i.e. uparipāṇi* to the first six, *samapāṇi* to the following four, and *avapāṇi* to the following two and perhaps also to the remaining patterns of six and four beats:[910]

---

[905] *Ibid*. pp. 369 f.

[906] See GOS 29, 87-88 (KM 29, 89-90; KSS 29, 123-124):

triḥśamyoparipāṇau tālāv apy evam eva caikakavān	*tālo 'pi hy eṣa nirdiṣṭaḥ* KSS *pittvovavāmam eva* KM
samapāṇau dve śamye tālāv apy evam evātha	*apy eva syāt* KSS *dve sāmyatālau vāmyevame vātha* KM
bhūyaḥ śamyātālāv avapāṇāv uttaras tathā caiva	*bhūyah śamyātālānuguṇād uttaras tathā dvikalaś ca* KSS
	[*bhūyaḥ* ?] *śamyā tālāvacayāṇāptvara tathā caiva* KM
caccatpuṭas tathā syād evaṃ hy āśrāvaṇātālaḥ	*ghaṭaparas tathā ca yuktaiḥ syād eva* KSS *vaccatpuras tathā syādaṃ vam hy* KM

See further Ramanathan 1999, 372-374.

[907] Two *tālā-s* are prescribed in GOS and one in KSS, whereas KM is unintelligible (*pittvovavāmam eva*).

[908] The speculations mentioned above were primarily fuelled by the uncertainty about the states of the latter two patterns. When both occur in their syllabic state then we have 12 + 6 + 4 = 22 beats, but when the *uttara*, for example, is doubled, we have 28 (i.e. 12 + 12 + 4), or 32 when also the *cacatpuṭa* is doubled (i.e. 12 + 12 + 8). Cf. SR 6, 187-92.

[909] Abhinavagupta perhaps echoes Bharata's view when asserting that the music in the first division was performed in *uparipāṇi*, the second in *samapāṇi*, and the third in *avapāṇi*, but perhaps went too far when assuming that the performance in the remaining two divisions was to take place in *avapāṇi*. A.Bhā. on NŚ 29, 87-8 (p. 106, l. 18: *dvayor uparipāṇiḥ, dvayoḥ samapāṇiḥ, tisṛṣv avapāṇiḥ*. Śārṅgadeva nevertheless fully corroborates Abhinavagupta's position (SR 6, 193a-c *eṣu triṣv api pakṣeṣūttaraś caccatpuṭas tathā atītena grahena syāta*). Note that Śārṅgadeva substitutes *avapāṇi* by its corresponding *graha*, viz. *atītagraha*.

[910] The main problem that faces us here is that we do not know in which way these beats were related to the *āśrāvaṇā* composition. Should all twenty-two beats, or perhaps only the initial set of twelve beats, be distributed over all three sections of the composition, or should the two final patterns (i.e. *uttara* and *cacatpuṭa*) linger as concluding adjuncts (i.e. as *anta* or *śirṣaka*)? Moreover, do the

Table 50 Applications of *pāṇī-s*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Beats	*śa*	*śa*	*śa*	*tā*	*tā*	*tā*	*śa*	*śa*	*tā*	*tā*	*śa*	*tā*	*Saṃ*	*tā*	*śa*	*tā*	*śa*	*tā*	*Saṃ*	*tā*	*śa*	*tā*
Divisions	1						2				3		4						5			
Pāṇi-s	*uparipāṇi*						*samapāṇi*				*avapāṇi*		(?*avapāṇi*)						(?*avapāṇi*)			

For analytical purposes Abhinavagupta further divides Bharata's five-fold division into seven *vidārī-s* (structural sub-divisions), each of them consisting of an *ekaka*, *i.e.* a single melodic phrase. The seven *vidārī*-divisions comprise (1) the initial three *śamyā-s*; (2) the following three *tāla-s*, (3) two *śamyā-s*, (4) two *tāla-s*, (5) a *śamyā* and *tāla* together, (6) the *uttara* and (7) the *caccatpuṭa* patterns respectively:[911]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Beats	*śa*	*śa*	*śa*	*tā*	*tā*	*tā*	*śa*	*śa*	*tā*	*tā*	*śa*	*tā*	*Saṃ*	*tā*	*śa*	*tā*	*śa*	*tā*	*Saṃ*	*tā*	*śa*	*tā*
Divisions	1			2			3		4		5		6						7			
Pāṇi-s	*uparipāṇi*						*samapāṇi*				*avapāṇi*		*avapāṇi*						*avapāṇi*			

Obviously disagreeing with Abhinavagupta's sixfold division, Śārṅgadeva mentions three other ways of dividing and reconstructing the composition; in all three cases the composition is divided into three *vidārī-s* (SR 6, 195d-99).[912] It is probable that the restriction to three *vidārī-s* anticipates the progression of the composition through three subsequent phases of the *pāṇi-s*.

In the first case the first and second *vidārī-s* are formed by two patterns of the syllabic *caccatpuṭa*, followed by two additional *kalā-s* (without *tāla* accompaniment!). The third *vidārī* is formed also by a *caccatpuṭa* pattern (SR 6, 196-97c). These phrases make a 8 : 8 : 6 structure:[913]

Vidārī	I								II								III					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Beats	*Saṃ*	*tā*	*śa*	*tā*	*Saṃ*	*tā*	*śa*	*tā*	*Saṃ*	*tā*	*śa*	*tā*	*Saṃ*	*tā*	*śa*	*tā*	-	-	*Saṃ*	*tā*	*śa*	*tā*
Structure	S	S	I	Ś	S	S	I	Ś	S	S	I	Ś	S	S	I	Ś	S	S	S	S	I	Ś
Patterns	*caccatpuṭa*				*caccatpuṭa*				*caccatpuṭa*				*caccatpuṭa*				?	?	*caccatpuṭa*			
Pāṇi	*uparipāṇi*								*samapāṇi*								*avapāṇi*					

In the second case the first two *vidārī-s* are made by *caccatpuṭa* patterns in the twofold state (*dvikala*) and the third *vidārī* by a syllabic pattern of *uttara tāla* (SR 6, 197d-8c). Together they make a 12: 12 : 6 structure:

---

latter occur in their syllabic form, or in their duple (*dvikala*) or quadruple state of expansion (*catuṣkala*)?

[911] A.Bhā. on NŚ 29, 87-8 (p. 106, ll. 5-16): [...] *ādau vīṇādivādye 'nugataṃ gītam ekakavān iti ekayā vidāryā iyad vakṣye | tālatrayaparyante gīte viccheda ekaḥ kartavya ity arthaḥ* [...] l. 18: *tena saptavidāryo 'tra*. Śārṅgadeva testifies to Abhinavagupta's sevenfold division (SR 6, 193d-95c), but may have preferred a three-fold division, of which he mentions three varieties.

[912] Abhinavagupta too appears to discuss some of these varieties (see A.Bhā. Vol. IV, pp. 106 ll. 17 - p. 107 ll. 3). See also Ramanathan 1999, 375-81.

[913] Ramanathan (1999, 380) offers a different scheme where *kalā-s* number 17 and 18 occur after *kalā-s* number 8 and 16 respectively.

Vidārī	I								II								III					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Beats	ni	*śa*	ni	*tā*	*śa*	pra	ni	*Saṃ*	ni	*śa*	ni	*tā*	*śa*	pra	ni	*Saṃ*	*Saṃ*	*tā*	*śa*	*tā*	*śa*	*tā*
Structure	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	Ś	I	S	S	I	Ś
Patterns	*dvikala caccatpuṭa*								*dvikala caccatpuṭa*								*uttara*					
Pāṇi	*uparipāṇi*								*samapāṇi*								*avapāṇi*					

The third variety, in fact, represents the structure described by Bharata. The first *vidārī* is thus said to consist of the twelve *kalā-s* as mentioned by Bharata; the second and third *vidārī-s* are formed by syllabic patterns of *uttara* and *caccatpuṭa tāla* respectively (SR 6, 198d-99). The three phrases make a 12 : 6 : 4 structure:

	I												II						III			
Kalā	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Beats	*śa*	*śa*	*śa*	*tā*	*tā*	*tā*	*śa*	*śa*	*tā*	*tā*	*śa*	*tā*	*Saṃ*	*tā*	*śa*	*tā*	*śa*	*tā*	*Saṃ*	*tā*	*śa*	*tā*
Structure	S	S	I	I	I	I	I	I	I	I	S	I	Ś	I	S	S	I	Ś	S	S	I	Ś
Patterns	First 12 beats from Bharata's description												*uttara*						*caccatpuṭa*			
Pāṇi	*uparipāṇi*												*samapāṇi*						*avapāṇi*			

Abhinavagupta's reflections on this variety are worth mentioning. He first indicates that some experts also divided the *tāla* structure into three sections (*khaṇḍa* or *vidārī*) in the same way as the composition (*dhruvā*) was divided.[914] This at least seems to suggest that the number of *kalā-s* in the *tāla* sections should agree with those of the respective textual and melodic sections. In this regard he resorts to (1) Bharata's metrical method of grouping the text of the song into *gaṇa-s* of four moras (*mātrā*) (as for example in the *āsārita-s* and *vardhamāna-s*) and (2) to the method of 'stretching' a melody, when due to repetition, acceleration, etc., additional time-units (*kalā-s*) need to be 'filled up' with melody and text.[915] If Abhinavagupta is correct, the application of these additional methods to the *āśrāvaṇānirgīta* represent other characteristics of the way *pāṇi* operated.

Abhinavagupta further informs us that because of the application of *uparipāṇi* in the first *khaṇḍa* (read: *vidārī*), the initial four *tāla* units are without 'text' and the remaining eight with 'text' (*pada*).[916] It is most likely that he meant there was no song with meaningful words during the four opening time-units. The practice of opening a song with meaningless syllables or phrases is very common in most of the musical compositions and is commonly called *upohana*. Abhinavagupta then seems to invert the usual order of the final two *pāṇi-s* by applying *avapāṇi* in the second section and *samapāṇi* in the third. He further seems to suggest that in *avapāṇi* the interaction between percussion (*tāla*) and singing results in the absence of beats on the first two feet (*gaṇa*) of the second section.[917]

---

[914] A.Bhā. p. 107 ll. 4 f. *anyais tu dhruvā trikhaṇḍā kṛtā, tālas trikhaṇḍaḥ kṛtaḥ.*

[915] A.Bhā. Vol. IV, pp. 106 ll. 20 - p. 107 ll. 3 ***catvāras tv gaṇā yugma*** (NŚ 31, 106) *iti vakṣyate* I *khaṇḍadvayānte ca mātrādvayaṃ kalāyāṃ yad vakṣyati* ***ekakalāpi mātreti*** I *evaṃ khaṇḍadvaye 'ṣṭādaśakalā* I *tṛtiye caturdaśa* I *antye gurur dvayoś catuṣkalayoḥ* I *vakṣyate hi* ***nivṛttau hi kalā nyūnā yadā vastuvaśād bhaved ākalāpātamātreti*** (NŚ 31, 128).

[916] A.Bhā. p. 107 ll. 4 f. *tatra prathamakhaṇḍe uparipāṇiyogāc ca tasya* (read: *catasraḥ*) *kalā padaśūnyā śeṣāsv aṣṭāsu padāni.*

[917] Ibid. ll. 5 f. *dvitīye 'vapāṇiyogād dvau gaṇau tu tāle praveśe na labhyete, śeṣaḥ pādabhāgaḥ ṣaṭsu kalāsv iti pancapāṇiḥ.* [*gaṇau* my emend. *guṇau* GOS *gurū* Ramanathan; *praveśena* GOS]

Table 51 Abhinavagupta's interpretation

	I												II												
Kalā	1	2	3	4	5	6	7	8	9	10	11	12			13	14	15	16	17	18	19	20	21	22	
Beats	*śa*	*śa*	*śa*	*tā*	*tā*	*tā*	*śa*	*śa*	*tā*	*tā*	*śa*	*tā*	-	-	*Saṃ*	*tā*	*śa*	*tā*	*śa*	*tā*	*Saṃ*	*tā*	*śa*	*tā*	-
Structure	S	S	I	I	I	I	I	I	I	I	S	I	S	S	Ś	I	S	S	I	Ś	S	S	I	Ś	
Text/Song	-	-	-	-	SS	IIII	IIII	SII	SS	IIII	IIII	S	SS	IIII	IIII	SII	SS	IIII	IIII	S	IIS	IIII	SII	IIII	S
Pāṇi	*uparipāṇi*												*avapāṇi*								*samapāṇi*				
Patterns	First 12 beats from Bharata's description												*uttara*								*caccatpuṭa*				

The text is obviously organised into tetra-moric feet (*caturmātrika gaṇa*). Even though each section ends on a long syllable, it is still counted as a tetra-moric foot.[918] What strikes one the most is that according to the procedure suggested by Abhinavagupta, the final syllable of the song comes to fall outside the rhythmic structure. Whether this phenomenon should be interpreted in the same light as the extra *sannipāta* beat in the *āsārita-s*, which coincides with the first beat of the following rhythmic cycle, remains to be proved.

It should be observed that *tāla* (in the form of cheironomy) permeates the performance; or irrespective of whether the song, percussion or *vīṇā* is active; the time measures are always accompanied by it, even during the *upohana* when meaningless vocalisation is practiced. Against the background of an (almost) ever-present *tāla* accompaniment, it is difficult to explain why and how certain *kalā-s* in the middle of a given measure (e.g. between the 12th and 13th beats) are without time-measurement, though with music or text.

9.7.3.6 Bharata's ideas applied

The rhythmic implications of these models require further study. But we have to let the matter rest here, revert to our discussion of Bharata's original ideas on *pāṇi*, and apply the two approaches discussed above, to understand the interaction of tempic generated by *pāṇi*. (I) When the medium tempo is accepted as the point of departure, *i.e.* the tempo of singing, then during the initial six beats the instrumental music moves in fast tempo (*druta*) and two times faster than the singers (*uparipāṇi*). During the 7th and 10th beats singing and instrumental music moves in the medium tempo (*madhya*) and in perfect harmony, or in phase, with respect to each other (*samapāṇi*). From the 11th beat onwards the instruments move in the slow tempo (*vilambita*) that is two times slower than the singers (*avapāṇi*):

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Beats	*śa*	*śa*	*śa*	*tā*	*tā*	*tā*	*śa*	*śa*	*tā*	*tā*	*śa*	*tā*	*Saṃ*	*tā*	*śa*	*tā*	*śa*	*tā*	*Saṃ*	*tā*	*śa*	*tā*
Divisions	1						2				3		4						5			
Pāṇi	*uparipāṇi*						*samapāṇi*				*avapāṇi*		(?*avapāṇi*)						(?*avapāṇi*)			
Song-tempo	medium						medium				medium		?						?			
Vīṇā-tempo	fast						medium				-slow		?						?			

According to the other approach, when the slow tempo of singing is accepted as the standard, then the tempo of the instrumental music in the three phases progresses in virtually the opposite direction than that in approach (I), because it moves in the slow tempo in *uparipāṇi*, in medium tempo in *samapāṇi* and in fast tempo in *avapāṇi*:

---

[918] See above n. 915.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Beats	*śa*	*śa*	*śa*	*tā*	*tā*	*tā*	*śa*	*śa*	*tā*	*tā*	*śa*	*tā*	*Saṃ*	*tā*	*śa*	*tā*	*śa*	*tā*	*Saṃ*	*tā*	*śa*	*tā*
Divisions	1						2				3		4						5			
Pāṇi	*uparipāṇi*						*samapāṇi*				*avapāṇi*		(?*avapāṇi*)						(?*avapāṇi*)			
Song-tempo	slow						slow				slow		?						?			
Vīṇā-tempo	slow						medium				fast		?						?			

For the time being it is not possible to decide which of these two progressions of tempo was the standard procedure in ancient musical performances. In modern times, however, one occasionally observes both forms. The main artist usually puts down a particular tempo, upon which the other musicians may base their variations. Drums, for example, usually open their accompaniment with a relatively rich, though fast opening composition called *mukhaḍā*. After completing this opening gimmick in a few cycles, the drummer settles down and adopts the tempo of the singer or instrumentalist. On the other hand, some compositions such as certain *gata-s* or *tukaḍā-s*, sometimes require a build-up into three phases: first in slow tempo, then in medium tempo and finally in fast tempo. Meanwhile the singer or instrumentalist usually maintains the slow (or medium) tempo during all three phrases.

9.7.3.7 Abhinavagupta's interpretation

When we compare Bharata's explanation of *pāṇi* with Abhinavagupta's interpretation, it immediately strikes one that the latter differs from the former. Discarding Bharata's principle of tempic variation, Abhinavagupta chooses to explain the *pāṇi-s* from the perspective of synchrony, *viz.* whether accompaniment begins earlier, together or later than singing. Before we try to explain this remarkable change of perspective, let us first take a closer look at Abhinavagupta's interpretation. According to him the *vīṇā* instruments commence *first* during the *uparipāṇi* phase(s); they play alone during the first *vidārī*-division (comprising three *śamyā-s*), and then the song joins in from the second *vidārī* (*i.e.* from the fourth beat onwards). During the third and fourth divisions both proceed in *samapāṇi*, *i.e.* synchronously. In *avapāṇi*, however, the roles are reversed, thus singing starts first and *vīṇā* accompaniment joins in somewhat later, assumedly from the twelfth beat onwards.[919] We may display these linear procedures as follows:

---

[919] Cf. A.Bhā. on NŚ 31, 374 (p. 285, ll. 11-15): *triśamyopari pāṇau (bha. nā. 29, 87) ity āśrāvaṇakāle ādau vīṇādivādyagraha iti* [...] *tena gītakriyāyāṃ vāḍyakriyātulyakālaḥ samapāṇiḥ* [GOS *nāṭyakriyātulyakālā(laḥ)*] [...] *yathā(dā) tu gītakriyāprādhānyāt .....tṛkriyā paścāt tathā(dā) ('va)pāṇiḥ.*

Compare with the following passage on NŚ 29, 87-8 (p. 106, ll. 5-13): [...] *trir uparipāṇau tena śamyātraye ādau vīṇādivādye 'nugataṃ gītam* [...] *tālatrayaparyante gīte viccheda ekaḥ kartavyaḥ ity arthaḥ* [...] ***uparipāṇy** abhidhānād eva śamyātrayaṃ vidārīviccheda upalabdha eva, tenādau vīṇādivādyaprayogaḥ śamyāvādyam ato 'pi vīṇāvādyaṃ tatas tālatrayam iti* [...] *tato vādyena samaṃ gītiḥ; dvau samapāṇau tena śamyādvaye tāladvaye ca gītavādyayoḥ saṃgrahaḥ; tataś ca yau **śamyātālau**, tatra pūrvaṃ gītaṃ tato vādyam ity **avapāṇiḥ**.*

The point of starting is indicated by a 'x'.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Beats	*śa*	*śa*	*śa*	*tā*	*tā*	*tā*	*śa*	*śa*	*tā*	*tā*	*śa*	*tā*	*Saṃ*	*tā*	*śa*	*tā*	*śa*	*tā*	*Saṃ*	*tā*	*śa*	*tā*
Divisions	1			2			3		4		5		6						7			
Pāṇi	*uparipāṇi*						*samapāṇi*				*avapāṇi*		*avapāṇi*						*avapāṇi*			
Song time												x										
Vīṇā time a						x						x					x				x	
Or b						x											x					
Or c						x													x			

However, when Abhinavagupta's interpretation of *avapāṇi* is strictly applied in the last two divisions, one has at least three different ways of accompaniment during those divisions. The *viṇā* plays: (a) intermittently, *i.e.* during the 12th *kalā*, the 16th - 18th, and 21st - 22nd when *avapāṇi* is applied in each division; or (b) from the 12th *kalā* onwards when *avapāṇi* is observed only in the fifth division; and (c) from the 17th *kalā* onwards when all three divisions are conceived as forming one division where the accompaniment commences in the middle.

When the entire composition is taken into consideration, it is clear that the singing joins the accompaniment later and continues until the end, whereas the latter plays throughout from the beginning, though with curious breaks here and there. Even though these variants show an interesting rhythmic interaction between the song and the *vīṇā*, the notion of variation is very much different from that of *pāṇi* as envisaged by Bharata.

9.7.4 Controversial identification of *pāṇi* with *graha*

In contrast with Bharata's description of *pāṇi* as a principle of tempic interaction, Abhinavagupta interprets *pāṇi* as *graha*, *i.e.* syncopation or tempic synchronisation of singing and accompaniment. It is my contention that *pāṇi* and *graha* were different notions, but since Dattila they have come to be confounded and used almost as synonyms.

The procedure in *uparipāṇi* as described by Abhinavagupta resembles the tendency in modern composition to begin the song at a relatively late point in the rhythmic cycle, whereas percussion joins in somewhat later, but just before the beginning of the following cycle.[920] While both entities introduce as well as enter the new cycle simultaneously, the drums usually have the obligation to mark or stress the initial beat.

9.7.4.1 *Graha* (joining in)

In the NŚ as well as the Datt. *pāṇi* occurs (along with *laya* and *yati*) on the list of (about twenty) *tāla* related topics, whereas *graha* is neither listed nor treated. However, in the context of drumming the NŚ does mention certain 'cheironomical signals' where drums could enter the performance (*bhāṇḍagraha*) such as *sannipātagraha, tarjanīgraha* and *ākāśagraha*.[921] With reference to the Dhruvā composition called Natkuṭa, Bharata even mentions four varieties: *sannipāta, śamyā, tāla* and *ākāśaja* (cf. GOS 32, 421). Notably, there is no reference to *graha* in the 'modern' sense of *anāgatagraha, samagraha* or *atītagraha*.

---

[920] Cf. Rowell 1992, 249.

[921] Cf. KSS 4, 316-21; 29; 32, 29, 439cd-448; KM 32, 421cd-430; BI 32, 471cd-480.

However, in the A.Bhā., SR and other sources, *pāṇi* is removed from the list,[922] but yet the topic of *graha* is treated in the respective *tāla* chapter. Only medieval and later sources include *graha* in an abridged list of 'Ten Essentials of Tāla' (*tāladaśaprāṇa*). As it can be shown that the older notion of *pāṇi* has been misunderstood and misinterpreted in post-Bharata periods, it seems historically quite likely that it not only prepared the basis for the development of the notion of phasing or syncopation (*graha*), but ultimately gave way to the latter in post-Abhinavagupta times. This conclusion therefore cautions that one should treat all early references to and interpretations of *graha* in the sense of syncopation, with appropriate suspicion and utmost care.

Syncopation, or *graha* in Sanskrit, refers to the alteration of accent in a *tāla*-bar; the accent on the initial beat of the bar is usually shifted to a weaker (*i.e.* normally unaccented) one before or after it. Aside from the fact that both *pāṇi* and *graha* have a threefold division of relative variations, they have further little in common. However, Bharata's description of the *pāṇi-s* as the 'grasping' or tempic interaction (*graha*) between singing and instrumental music, obviously gave rise to serious misinterpretations in later periods (see above, n. 888). The word *graha* in this description was obviously interpreted in its technical sense of joining in at different phases. The same confusion is made when *laya* is taken in the sense of 'rest', and thus connoting 'time', *pāṇi* could then be misinterpreted as a form of rhythmic variation where instrumental music is also conceived starting either simultaneously, earlier or later than the time of the singer. Nonetheless, this interpretation has to be rejected because, before explaining *pāṇi,* our author elaborates on *laya* (as well as *yati*) where he exploits the tempic and rhythmic aspects of *laya*, rather than its temporal connotation alone.

Confusion between *pāṇi* and *graha* may have started already with Dattila. According to him the three *pāṇi-s* are so termed because the beats (*pāta*) in them are simultaneous with, prior or subsequent to [those of] music, words and melody.[923] Note that contrary to Lath's assertion (1978: 363; 1988: 160) Bharata does not mention beats (*pāta*), but the tempo (*laya*) of instrumental music or drumming (*vādya*) as the main point of reference.[924]

The Saṅgītaratnākara also identifies *pāṇi* with the cognate notion of *graha* 'start' and consolidates the confusion initiated by Dattila and Abhinavagupta. While it seems evident that *samapāṇi* should correspond with *sama-graha* ('simultaneous start'), the *avapāṇi* with *anāgata-graha* ('early start') and the *uparipāṇi* with *atīta-graha* ('late start'), Śārṅgadeva reverses the latter two *graha-s*: *avapāṇi* is put on a par with *atīta* and *uparipāṇi* with *anāgata*.[925] In fact, this equation confounds two different perspectives with one another. From the perspective of rhythm and drumming *avapāṇi* corresponds with *anāgata*, but from the perspective of melody and singing it indeed goes with *atīta*. The same correlations apply

---

[922] However, Ramanathan's clarification (1999, 123) as to why Śārṅgadeva did not put *pāṇi* nor *graha* on his list of *tāla* topics (SR 1, 1, 44-8ab), is not convincing.

[923] Datt. 153cd f. *samaṃ copari pātas tu yad vādhaḥ saṃsthitaṃ bhavet* | *vādyaṃ padāni varṇo vā tad evam abhidhīyate.*

[924] See above n. 890: *layena yat samaṃ...; layād yad avakṛṣṭaṃ...; layasopari vādyaṃ syāt...*

[925] SR 5, 50cd-52ab:

samo 'tīto 'nāgataś ca grahas tāle tridhā mataḥ
gītādisamakālas tu samapāṇiḥ samagrahaḥ
so 'vapāṇir atītaḥ syād yo gītādau pravartate
anāgataḥ prākpravṛttagrahas tūparipāṇikaḥ

mutatis mutandis to *uparipāṇi* and *anāgata*.[926] Kallinātha tries to discuss this issue from both perspectives.[927]

In musicological discourse, *graha* 'grasp' thus refers to the point in the bar which was seized by a musician (usually the drummer) or dancer to 'enter' or join the ensemble. The Indians thus distinguished three modes of syncopation, depending on the place of the initial accent, which is usually indicated by cymbals and drums. When there is no alteration of accent, say when the stresses in *tāla* fully coincide with that in singing, instrumental music or dance, the syncopation is called 'even' (*samagraha*). However, when the initial accent is placed earlier, i.e., before the first beat - usually on the last beat of the preceding bar, it is called 'early' (*anāgata*), and 'late' (*atīta*) when delayed, usually occurring on the second beat of the same bar. Musically only the latter two varieties are interesting because they go against the original beat.

The identification between *pāṇi* and *graha* is misleading because they work with very different principles. The former exploits the contrast or interaction of tempo between the various sections of a musical ensemble so that while playing together one of them proceeds with a tempo that is even, or slower, or faster than that of the other sections. This procedure may involve other techniques such as acceleration and deceleration to regain harmony or to resolve the tension created by the tempos on different tracks. *Graha*, on the other hand, works with the principle of phased or shifted accents, and plays with the moment of entering the performance (i.e., before, after, or together). Since the different ensembles begin at different points in time, the extraordinary effect of cross-rhythm or polyrhythm was achieved without an alteration of the original tempo.

Kallinātha illustrates the processes of syncopation and adjustment by means of the example of a person who is undertaking/prepared to go some place together with a friend or another person (*ādi*):[928]

> When this person hears that his friend has already departed leaving him standing behind at the place of departure, he then moves fast to reach [the place of destination] in time with his friend. Or, when a person who has arrived earlier [at the place of departure] than his friend, but after hearing that his friend stayed somewhere else but is on his way now and will reach the point of departure later, moves in a slowed down pace so that he and his friend can reach [the place of destination] in time. In like manner should one consider the topic under discussion. The idea is that because singing alone is predominant, *tāla* should be applied in compliance to it.

In other words, *pāṇi* has come to represent *graha* or temporal phasing of text, melody and accompaniment. In this particular sense, both notions thus focus primarily on the point of commencement that the various sections of a musical ensemble proceed from, *viz.* either synchronously or a-synchronously. In the latter case one or more sections could begin earlier or later in relation to one another. Most probably there was another aspect connected to this notion, namely a subsequent phase in which an attempt was made to make up the temporal imbalance by adjusting the tempo in such a way that finally melody and accompaniment met or coalesced with each other in perfect harmony (*sāmya*). It is perhaps with this idea in mind that Amarasiṃha interpreted *laya* as the evenness of rhythmic time and action.[929]

---

[926] See also Sambamoorthy, *Dictionary of South Indian Music* (Madras 1959) pp. 214 f. (cited by E. te Nijenhuis 1970, 363).

[927] Kalānidhi Vol III, p. 33, ll. 3-10: *tālasya gītādipūrvabhāvitvād avapāṇir ity atītagraha ucyate* | *gītādinā tālakālam atikramyottarakālabhāvinā atītatvād atīta ity arthaḥ* [...] *tālasya gītādyottarakālabhāvitvāt* | *sa evoparipāṇikaś ca bhavati* | *anāgata iti gītādiprārambhakāla āgato na bhavatīty anvartho draṣṭavyaḥ*. See also Ramanathan 1979, 129-30.

[928] Kalānidhi on SR 5, 50cd-2: *yathā loke kaścana kenacin mitrādinā saha kañcit pradeśaṃ prati gantum udyuktaḥ* | *saḥ mitrādir ātmānam atītya purastād gacchatīti śrutvā, tatpaścād deśe sthitaḥ tena saha sāmyasiddhyarthaṃ svayaṃ drutaṃ gacchati; yathā vā mitrādyāgamanāt pūrvakāle svayam āgataḥ, taddeśāt purodeśe sthitvā gantuṃ pravṛttaḥ, paścād deśe mitrādir āgacchatīti śrutvā, tasya svasāmyasiddhyarthaṃ pade pade vilambya gacchati, tadvad iti prakṛte 'pi draṣṭavyam* | *etena gītād eva prādhānyāt tadanusāreṇa tālo yojanīya ity uktaṃ bhavati* ||

The charm of applying the techniques of *yati, pāṇi* and *graha* obviously lay in building up tension by intentionally altering, or say by 'disturbing', the synchrony and balance between singing and instrumental music, as well as in restoring the synchrony or balance (*sāmya*). The initial tension is evidently resolved through a measured acceleration or deceleration of the respective section until rhythm, melody and text were again brought into phase with another. After restoring the harmony of tempo and balance, the dynamic interplay between melody, rhythm and text could of course be resumed. The sense of tension and resolve exploited by this technique was obviously aimed at adding beauty to the performance, very much similar to that of *yati* and other related techniques.

---

[929] See the Vyākhyāsudhā comment on Amarakoṣa 1, 7, 9cd (*tālaḥ kālakriyāmānaṃ, layaḥ sāmyam) gīti-vādya-pādādinyāsānāṃ kriyākālayoḥ sāmyaṃ layaḥ.*

10. Conclusions

The present dissertation is a study of *tāla*, the rhythmic aspect of ancient Indian music, and is based on the Nāṭyaśāstra, a classical treatise on ancient Indian dramaturgy. It focuses on the so-called music section of the Nāṭyaśāstra (NŚ 28-33/34).

Since the existing editions of the Nāṭyaśāstra are not critical, it became imperative to first prepare a new and better edition of at least NŚ 31, i.e. the so-called *tāla* chapter. Only when this textual prerequisite was met satisfactorily, could one work on matters of content such as translation, analysis and interpretation.

Numerous textual problems have been solved to the best of my satisfaction. The idea of different recensions of the NŚ proved to be counterproductive to a text-critical study of the text. I have rejected this idea and worked with the idea of *versions* instead. The existing Mss. of the NŚ may thus be conceived as belonging to a single and 'closed' tradition that has been transmitted with minor 'collateral' bifurcations. These bifurcations have been identified with the versions that are represented by the KSS, KM and GOS editions, which seem to have emerged as a result of sustained damage to and mishandling of the material in different periods and regions (§ 1.2.1).

In § 1.2.4 I try to show that the current textual disparities between the Mss. of the NŚ are nothing but scribal corrections, errors, accretions, interpolations, omissions, etc., which can easily be detected and eliminated by critically collating the text of the existing versions.

Contrary to the view that the *tāla* chapter of the NŚ is the most inaccessible and unintelligible part of the music section, if not of the entire work, the present work proves the opposite; my analysis shows that the author follows a relatively lucid and systematic approach in presenting the topics, which in the course of time seems to have been blurred due to the reasons indicated above, (see §§ 1.1.3-4). It is my contention that when a similar approach is applied to other 'problematic' chapters of the NŚ, the results may be as surprising as in the case of the *tāla* chapter, and that Nāṭyaśāstra studies, which have been stagnant for a while, may be revived with the prospect and feasibility of a critical edition of the entire text in the near future.

On the basis of my edition of a part of chapter 31 of the Nāṭyaśāstra I could make some contributions to music-history and musicology. At least thirteen different meanings of *tāla* occur in the text, each of them referring to a slightly different notion of the word. Even though the NŚ does not define these meanings, they emerge from the specific contexts they are used. They are:

1. a particular gesture or clap with the left hand
2. the entire system of gestures with the hand, fingers, and arm (cheironomy)
3. cymbals (idiophones)
4. the practice of percussion instruments (idiophones & membranophones)
5. a musical measure or metre, or its expansions (*viz.* duple and quadruple forms)
6. a type of musical measure or metre (*viz.* 'even', 'uneven' and 'mixed')
7. a measuring system (*pramāṇa/māna*)
8. a supporting system (*pratiṣṭhā*)
9. a coordinating system (*sāmya*)
10. time (*kāla*)
11. action (*kriyā*)
12. rhythm (*tāla*)
13. tempo (*laya*)

Even though some of the meanings recorded above appear to be rather different and diverse, in fact, they relate to different shades or aspects of a single entity or notion and do not exclude one another, are intertwined and even presuppose one another. *Tāla* may thus be perceived as a measuring (7), supporting (8) and coordinating system (9) that organises or regulates time (10), action (11), rhythm (12) and tempo (13) of the performance by means of measures, or their expansions (5), which are of various types (6) and minutely synchronised by the system of cheironomy (1-2) that is reinforced by the accompanying percussion instruments (3-4).

These meanings can be grouped into specific categories: (i) relating to gestures (1-2); (ii) to percussion instruments (3-4); (iii) to musical metre (5-6); (iv) to structuring or organising systems (7-9); (v) to relative substrata (10-11) and (vi) to dynamic factors (12-13). It should be noted that most of these meanings are attested to in the NŚ, or prevalent during the time of its composition, whereas only one or two have developed in later times. For example, the association with cosmic sound (*nāda*) and absolute subtrata, is relatively late and is not attested to in the NŚ.

A careful study of the meanings of *tāla* reveals traits of semantic developments of the word. Ethno-musicological arguments indicate that the cheironomical and metrical meanings of *tāla* have to be conceded as the oldest (see § 4.2), followed by its instrumental meanings (see ch. 5), which coincided with the emergence of the first musical instruments. An important phase in the semantic development of the term *tāla* must have been when in the course of time, it also came to designate more abstract notions related to the practice of percussion instruments (i.e., *tāla* cheironomy, membranophones and idiophones). First, there is the organisation of gestures into metres and metrical types (see ch. 6), followed by different conceptualisations of their function (see ch. 7). Rhythmic organisation or the rhythmic system that underlies the practice of percussion instruments was interpreted differently in subsequent periods. First it was conceived of as a measuring instrument by means of beating time, but later on other ideas emerged, such as that of supporting and coordinating the musical ensemble or for that matter the performing arts. A relatively late development appears to have been the identification of *tāla* with a number of absolute substrata such as time action and sound (see ch. 8), and rhythmic concepts such as *laya*, *yati* and *pāṇi* (see ch. 9).

The system of cheironomy constitutes a complex mechanism of well-defined gestures with the hands, arms and fingers. Our source remains silent about its function, but my examination shows, among others things, that it was designed not only to shape and constitute rhythmic organisation, but, in fact, also to measure musical time of the entire performance including vocalists, players of harps, lutes, flutes and drums, and dancers. From current ideas about the relationship between time and action in certain schools of Indian philosophy, it can be inferred that musical time might have been supposed to be measured by action. Even though time is not perceptible by the senses, one relies upon physical phenomena from the spatial world as the means (largely aural and/or visual) for its demarcation. For this purpose, a set of gestures and beats appears to have been designed (see § 4.3), which, as it seems, does not derive from an existing system of cheironomy, as for example, *mudra-s* prevalent in dance, Vedic recitation, etc.

The cheironomical motions were grouped into equal (periodic) units, each with a relatively unique structure. In this way, *tāla* cheironomy provided the measures by means of which musical time could be structured and measured. Thus, by translating time into action, i.e. by synchronising each unit of time (*akṣara* or *kalā*) with a corresponding gesture (*pāta*), musical time was made measurable and controllable. From another perspective, it further appears to be supporting and coordinating the performance (see further ch. 7).

Also important is that the introduction of brass or bell metal cymbals as rhythmic instruments (ca. 1st century CE) and their successful adaptation to Indian percussion seem to be responsible for *tāla* cheironomy to recede to the background (ca. 5th century CE).

It further seems that later on in the time of the SR (13th century) when the ancient *tāla* cheironomy, along with the traditional music (*mārga*), had virtually disappeared, a fresh, but evidently unsuccessful attempt was made to revive, or perhaps to integrate elements of the ancient cheironomy into the popular music (*deśī*) by introducing a new and distinct set of eight beats, such as *dhruvakā*, *sarpiṇī*, *kṛṣṇā*, etc. But eventually, this 'revival' disintegrated into perhaps what survives presently in North and South Indian *tāla* cheironomy.

I have moreover addressed the special problem of the so-called *dhruva* beat that is mentioned in the NŚ as a fourth audible beat. Internal evidence shows that the mention and 'description' of this beat is suspect.

I have also contributed to the ongoing debate on the presence of the notion of cyclic time or cyclicity in Indian music. In § 4.5 I have demonstrated that the modern notions of polyrhythm and cyclicity were already present in some of the ancient musical compositions such as the *āsārita-s*, and the central role *sannipāta*, the strong initial beat, plays in effecting the sensation of cyclicity.

Bibliography

SECTION I: PRIMARY SOURCES

For the NŚ Manuscripts ulitised in this work, the reader is refered to § 1.2.2, Table 7, above.

Abhinavabhāratī

Hindī Abhinavabhāratī. Sanskrit editions, Hindī translations and commentaries of Nāṭyaśāstra and Abhinavabhāratī chapters 1, 2 and 6, by Ācārya Viśveśvara. Delhi. 1960, ^{2}1973.

Abhinavatālamañjarī

Abhinavatālamañjarī of Appātulasī Kāśīnātha. Edited by Mukesh Garg and translated by Puru Dadhich. Hathras 1978.

Amarakoṣa

Nāmaliṅgānuśāsana (*Amarakoṣa*) of Amarasiṃha, with the commentary of Bhānuji Dīkṣita entitled, the Vyākhyāsudhā (or Rāmāśramī). Edited by Paṇḍita Śivadatta. Delhi 1985. [Reprint of the Nirnaya Sagar Press edition, Bombay n.d.]

Aṣṭādhyāyīsūtrapāṭha

Aṣṭādhyāyī of Pāṇini, with the Ābhā Hindī commentary along with Pāṇinīya Śikṣā, Gaṇapāṭha and Liṅgānuśāsana. Ed. Nārāyaṇa Miśra Varanasi 1977. Gokuldas Sanskrit Series 28.

Aumapatam

Aumapatam. Critical edition, translation and commentary by Peter Vonessen, Europäische Hochschulschriften Reihe 27, Asiatische und Afrikanische Studien 53, Frankfurt 1996.

Bharatārṇava

Bharatārṇava of Nandikeśvara. Ed. Vasudeva Sastri. Thanjavur 1988. Tanjore Saraswati Mahal Series 74.

Bharatabhāṣya

Bharatabhāṣya or *Sarasvatīhṛdayālaṃkāra* of Nānyadeva. BORI Library, Poona. Govt. MS no. 111of 1869-70.

Bharatakośa

Bharatakośa: A dictionary of technical terms with definitions collected from the works on music and dramaturgy by Bharata and others. Compiled by M. Ramakrishna Kavi. Tirupati 1951. Second edition Delhi 1983.

Bṛhaddeśī
BṛD

Bṛhaddeśī of Mataṅga Muni. Edited and translated by by Prem Lata Sharma. Vol. I. New Delhi 1992; Vol. II New Delhi 1994.

Chandaḥ Śāstram

Chandaḥ Śāstram of Piṅgala, with *Mṛttasañjīvani vṛtti* of Hakāyudha Bhaṭṭa and *Chandonirukti* of Madhusudana Vidyāvācaspati. Ed. Pt. Kedāranātha. Reprint Delhi 1994. Parimal Sanskrit Series 6.

Dattilam

Datt. — *Dattilam, A Compendium of Ancient Early Music*. Text and annotated transl. by E. te Nijenhuis. Leiden 1970.

Dattilam. Text and annotated transl. by Mukund Lath. New Delhi 1988. Kalāmūlaśāstra Series 2. See also Section II, *A Study of Dattilam*.

Nāradīya Śikṣā

Nāradīya Śikṣā with the commentary of Bhaṭṭa Śobhākara. Critically edited with translation and explanatory notes by Usha R. Bhise Poona 1986. BORI Research Unit Series 8.

Nartananirṇaya

Nartananirṇaya. Edition and annotated translation by R. Sathyanarayana. Delhi 1994. Vol. I.

Nāṭyaśāstra

NŚ — *Bhāratīyanāṭyaçāstram*. Edition, translation and study of the twenty-eighth chapter of the NŚ by Joanny Grosset. Published as 'Contribution a L'Étude de la Musique Hindoue', in *Mélanges de Philologie Indo-Européenne*, Paris 1888, pp. 1-91. Bibliothèque de la Faculté des Lettres de Lyon, Tome VI.

Bhāratīya-nāṭya-çāstram. Traité de Bharata sur la théâtre. Texte Sanskrit. Edition critique par Joanny Grosset. Tome première. Paris/Lyon 1898. Annales de L'Université de Lyon, Fasc. XL. [This edition contains the first fourteen chapters of the NŚ].

KSS_2 — *Hindī Nāṭyaśāstra*. Edited and translated into Hindī by Bābū Lāla Śukla Śāstrī. Varanasi 1984 Vol. I (chs. 1-7), 1978 Vol. II (chs. 8-19), 1983 Vol. III (chs. 20-27), 1985 Vol. IV (chs. 28-36). Varanasi Kashi Sanskrit Series 215.

KM — *Nāṭyaśāstram*. Edited by Paṇḍita Śivadatta and Kāśinātha Pāṇḍuraṅga Parab, Bombay 1894. Kāvyamālā 42.

KM_2 — *Nāṭyaśāstram*. Second and revised edn. of KM [=KM_1] by Pt. Kedāranātha, Bombay 1943. Reprinted by Bhāratīya Vidyā Prakāshan, Delhi 1983.

KSS — *Nāṭyaśāstra of Bharata*. Edited by Baṭuka Nātha Sharmā & Baladeva Upādhyāya, Varanasi 1929. Reprinted in 1980. Kashi Sanskrit Series 60.

Nāṭyaśāstra of Bharata Muni. Edited with the *Abhinavabhāratī*, along with Hindī translations (*Manoramā*) and discussions by Pārasanātha Dvivedī. Varanasi 1992 Part I (chapters 1-5).

PSS *Nāṭyaśāstra of Bharata Muni*. Edited with the Commentary *Abhinavabhāratī*, by K.L. Joshi. Delhi ^{2}1988 (chs. 1-7), ^{2}1988 Vol. II (chs. 8-18), 1983/^{2}1987 Vol. III (chs. 19-27), 1984/^{2}1989 Vol. IV (chs. 28-37). Parimal Sanskrit Series 4.

GOS *Nāṭyaśāstra of Bharatamuni*. Edited (with the Commentary *Abhinavabhāratī* on ch. 6 only) by Ramakrishna Kavi 1926 Vol I (chs. 1-7) Gaekwad's Oriental Series 36; revised and critically edited with preface and appendices by K. S. Ramaswami Sastri, Baroda 1956; reprinted Baroda 1980; in the fourth edition by K. Krishnamoorthy, GOS 36, Baroda 1992, the text is complete with the commentary on all six chapters.
Vol. IV (chapters 28-37) edited along with the commentary by Ramakrishna Kavi and J.S. Pade, Baroda 1964. GOS 145.

Nāṭyaśāstra of Bharata Muni. Edited with *Nāṭyacandrikā* Hindī translation, Introduction and various Indices by Sudha Rastogi. Varanasi 1989. Part I, (chapters 1-10). Krishnadas Sanskrit Series 105.

Nāṭyaśāstra of Bharata Muni. Edited with the *Abhinavabhāratī* along with Hindī translations and *Bālakrīḍā*, a Hindī commentary, by Madhusudan Shastri. Varanasi 1971, part I (chapters 1-7); 1975, part II (chapters 8-18); 1981, part III, (chapters 19-28).

Nāṭyaśāstra 28vā̃ Adhyāya: svarādhyāya. Reconstruction of the text, summary of Abhinavagupta's commentary, Hindī translations and notes by Ācārya Bṛhaspati. New Delhi 1986.

BI *The Nāṭyaśāstra Ascribed to Bharata-Muni*. Ed. Manomohan Ghosh, Calcutta 1956. Bibliotheca Indica 272A, Vol II (chs. 28-36).

Rasa-Bhāva-Vicāra. Editions of Nāṭyaśāstra/Abhinavabhāratī chapters 6 and 7, with Marathi translations and explanations by R. P. Kaṅgal. Bombay 1973. Bhāṣāntaramālā 22.

Mahābhārata

Mbh. The *Mahābhārata*. For the first time critically edited by V. S. Sukthankar and others. Poona 1927-59.

Mātrālakṣaṇa

Mātrālakṣaṇa. Wayne Howard, N. Delhi 1988. Kalāmūlaśāstra Series 1.

Nāṭyasarvasvadīpikā

Nāṭyasarvasvadīpikā of Nārāyaṇa Śivayogin. Edition and Hindī commentary by Rudradeva Tripathi. Ujjain 1988.

Nirukta

The Nirukta of Yāskamuni. In the form of the Nighaṇṭu Bhāṣya of Kāśyapa Prajāpati with the Niruktavivṛti. Critically edited by Mukund Jha Bakshi. New Delhi 1982 [Reprint of Bombay edition 1930]

Rāmāyaṇa

Rām. — The *Vālmīki-Rāmāyaṇa*. Critically edited for the first time by a board of editors. Baroda 1960-75. 7 vols.

Ṛgveda

ṚV — Hymns of the Rig-veda in the Samhita and Pada texts. Reprinted from the Editio Princeps by F. Max Müller. Varanasi 1965. 4 vols.

Saṅgītadarpaṇa

Saṅgītadarpaṇa of Dāmodara. Ed. R. Simon, 'Quellen zur indischen Music: Dāmodara'. *ZDMG* Band LVI 1902, pp. 129-153 en 262-292.
Saṅgītadarpaṇam. Edition with introduction and notes by K. Vasudeva Śāstrī, SMS 34, Gov. Or. Series 66, Tanjore 1952.

Saṅgītamakaranda

Saṅgītamakaranda ascribed to Narada. Ed. Lakṣminārāyaṇa Garga. Hathras 1978.

Saṅgītarāja

Saṅgītarāja of Mahārāṇā Kumbhā's. Vol. I. Chapters 1-2. Ed. Premlata Sharma. Varanasi 1963. Hindu Vishvavidyalaya Nepal Rajya Sanskrit Series 5; Vol. II Vādyaratnakośa. n.p./n.d.

Saṅgītaratnākara

Saṅgītaratnākara of Śārṅgadeva.
Vol. I – Adhyāya 1, with the Kalānidhi of Kallinātha and the Sudhākara of Siṃhabhūpāla. Edited by S. Subrahmanya Sastri and revised by Smt. S. Sarada. Madras 1992. [First edition 1943].
Vol. II – Adhyāya-s 2-4, Edited by S. Subrahmanya Sastri and revised by V. Krishnamacharya. Madras ^{3}1976 [First edition 1944].
Vol. III – Adhyāya-s 5-6, Edited by S. Subrahmanya Sastri and revised by Smt. S. Sarada. Madras ^{2}1986 [First edition 1951].
Saṅgītaratnākara of Śārṅgadeva. Text and English translation with comments and notes by R. K. Shringi & P. L. Sharma.
Vol. I Chapter 1, ^{3}1991 and Vol. II Chapters 2-4, 1989.

Saṅgītasārasaṅgraha

Saṅgītasārasaṅgraha of Ghanaśyāmadāsa. Ed. Swami Prajñānānanda. Calcutta 1956.

Saṅgītaśiromaṇi

Saṅgītaśiromaṇi: A Medieval Handbook of Indian Music. Edited with introduction and translation by E. te Nijenhuis. Leiden 1992.

Saṅgītopaniṣatsāroddhāra
Saṅgītopaniṣatsāroddhāra: A Fourteenth Century Text on Music from Western India'. Edited with introduction and translation by Allyn Miner. Diss., Univ. of Pennsylvania 1994.
Saṅgītopaniṣatsāroddhāra of Sudhākalaśa's. Ed. Umakant Premanand Shah. Baroda 1961. Gaekwad's Oriental Series 133.

Vaiṣṇava Saṅgītaśāstra
Vaiṣṇava Saṅgītaśāstra of Narahari Chakravarti, includes Rāgaratnākara, Gītacandrodaya (Tālārṇava) and music portion of Śrī Bhaktiratnākara (chapter v). Ed. Guru Bipin Singh. Translator Gajānana Rānade Śāstrī: Madanlāl Vyās. Varanasi 1982. Jadaukunwar Rastrabhasha Series 23.

SECTION II: SECONDARY SOURCES

Most of the manuals and elementary works on *tāla* mentioned in the introduction (see above, nn. 22-23) have been omitted here.

Allen, Warren Dwight
1962 *Philosophies of Music History: A Study of General Histories of Music, 1600-1960,* New York: [First published New York 1939]

Annapurni, K.
1955 *Poetic Metres and Their Influence on the Growth of the Tāla System.* M. Litt. thesis, Univ. of Madras.

Apte, V.P.
1965 *The Practical Sanskrit-English Dictionary*. Delhi.

Banerji, S. Chandra
1990 *A Companion to Indian Music and Dance*. New Delhi.

Bansat-Boudon, L
1992 *Poétique du théâtre indien: Lectures du Nāṭyaśāstra*. Paris.

Bäumer, B.
1992 "Empirical Appreciation of Time." In H. S. Prasad (1992), pp. 36-46.

Bhat, G.K.
1975 *Bharata-nāṭya-mañjarī,* Poona

'Board of Scholars'
[n.d.] *The Nāṭyaśāstra of Bharatamuni.* Translated into English by a Board of Scholars. Delhi, Rāga Nṛtya Series No. 2.

Bodewitz, H.W.
1982 "ṚV 10, 146: The hymn to Araṇyānī". *D.N. Shastri Felicitation Volume: Indological Studies*. Delhi 1982, pp. 3-15.

Böhtlingk, O. & R. Roth
1855-1875 Sanskrit-Wörterbuch. Herausgegeben von der Kaiserlichen Akademie der Wissenschaften. St. Peterburg 1855-1875. 7 vols. [= PW]

Bṛhaspati, Ācārya
1989 *Bharata kā Saṅgīta-Siddhānta*. New Delhi ^{2}1986.

Burrow, T.
1973 *The Sanskrit Language*. London.

Cappeller, C.
1891 *A Sanskrit-English Dictionary*. Jena.

Caudhary, Subhadra
1984 *Bhāratīya Saṅgīta meṅ Tāla aur Rūpa-vidhāna: Lakṣya-Lakṣaṇamūlaka Adhyayana*, ('Form' in Indian Music). Ajmer.
1997 *Time Measure and Compositional Types in Indian Music: A Historical and Analytical Study of Tāla, Chanda and Nibandha Musical Forms*. New Delhi.

Clayton, Martin
2000 *Time in Indian Music*. Oxford.

Daniélou, A.
1970 "Rhythm and Tempo in the Puranas." *Aspects of Indian Music*. New Delhi.
1975 *Einführung in die indische Musik*, Wilhelmshaven.

Daumal, René
1970 *Bharata: L'Origine du Théâtre, La Poésie et la Musique en Inde*. Éditions Gallimard, Paris.

Deva, B. C.
1978 *Musical Instruments of India*, New Delhi.

Davids, Rhys and William Stede
1921-25 *Pali-English Dictionary*. London.

Dvivedī, Pārasanātha
1995 *Nāṭyaśāstra kā Itihāsa* ('History of the Nāṭyaśāstra'). Varanasi.

Eliade, Mircea
1958 "Time and Eternity in Indian Thought." In H. S. Prasad, (ed.) 1992, pp.

97-124.

Epstein, David
1995 *Shaping Time: Music, the Brain and Performance*. New York.

Fétis, F. J.
1869 "De la Mesure du Temps Musical, et des Combinaisons Rhythmiques et Métriques dans l'Ancienne Musique de L'Inde." *Histoire générale de la musique* (etc.), Vol. 2, Paris 1869, pp. 224-244.

Flora, Reis
1988 "Music Archaeological Data from the Indus Valley civilization, ca. 2400-1700 B.C., in *The Archaeology of Early Music Cultures*. Bonn.

Gautam, M. R.
1989 *Evolution of Rāga and Tāla in Indian Music*. New Delhi.

Ghosh, Manomohan
1950-1961 *The Nāṭyaśāstra: A Treatise on Hindu Dramaturgy and Histrionics. Ascribed to Bharata-Muni*. Translated for the first time with introduction and notes. Calcutta 1950, Vol I (chs. 1-27) and 1961 Vol II (chs. 28-36). Bibliotheca Indica 272.

Gokhale, Ś. V.
1979 *Laya-tāla-vicāra*. Bombay.

Gonda, J.
1977 *The Ritual Sūtras*, HIL Vol. I Fasc. 2, Wiesbaden.

Greetham, D. C.
1992 Textual Scholarship: An Introduction. New York/London.

Heymann, Wilhelm
1874 "Ueber Bharata's Nāṭyaçāstram." *Nachrichten von der K. Gesellschaft der Wissenschaften*, Göttingen 1874, pp. 86-107.

Holroyde, Peggy
1972 *Indian Music: A Vast Ocean of Promise*. London.

Isaacson, Harunaga
1995 *Materials for the study of the Vaiśeṣika system*. Ph.D thesis. Leiden.

Jones, William
1990 *On the Musical Modes of the Hindoos*. Written in 1784 and published in 1792 in the *Asiatick Researches* (vol. 3, 55-87). Reprinted in S. M. Tagore, *Hindu Music from Various Authors*. 1875 Calcutta. Reprint Delhi 1990, pp. 123-60.

Katre, S. M.

²1954 *Introduction to Indian Textual Criticism*. Poona.

Katz, Jonathan

1987 "The Musicological Portions of the *Saṅgītanārāyaṇa*: A Critical edition and Commentary." Ph.D. Thesis, Oxford Univ.

1992 *The Traditional Indian Theory and Practice of Music and Drama*, Panels of the VIIth World Sanskrit Conference Vol. XI. Edited by J. Katz. Leiden.

Kaufmann, Walter

1981 *Altindien*, Musikgeschichte in Bildern, Band II: Musik des Altertums - Lieferung 8. Leipzig.

Kintaert, Thomas

1997 "Ancient Indian Polyrhythms: The Structure of the Mārgatālas Containing an Explanation of their Prominent Status in the History of Indian Rhythm." *Sangeet Natak* No. 124 April-June, New Delhi 1997, 15-29.

2000 *Die Prinzipien der rituellen Rhythmik der altindischen Kunstmusik, anhand des tāla-Abschnitts des Dattilam.* M.A. thesis. Wien.

Krishnamoorthy, K.

1992 *Nāṭyaśāstra of Bharata Muni*. Baroda. GOS no. 36.

Kuckertz, Josef

1970 *Form und Melodiebildung der karnatischen Musik Südindiens.* Wiesbaden, Vol. I, ch. II A.

Kuiper, F. B. J.

1931 "Beiträge zur altindischen Wortforschung." *Zeitschrift für Indologie und Iranistik*, Band 8, Leipzig, pp. 241-245.

Lakshmi, Vijay

1996 *Saṅgīta Makaranda of Narada.* New Delhi.

Lath, Mukund

1978 *A Study of Dattilam: A Treatise on the Sacred Music of Ancient India.* N. Delhi.

1988 See Section I, *Dattilam.*

Lefeber, R.

1994 *The Rāmāyaṇa of Vālmīki*, Vol. IV. Princeton.

Macdonell, A. A.

1916 *A Vedic Grammar for Students.* Oxford

Marcel-Dubois, C.

1941 *Les instruments de musique de l'Inde ancienne*, Paris.

Mayrhofer, M.
1956 *Kurzgefasstes Etymologisches Wörterbuch des Altindischen*. Band I-III, Heidelberg. [= KEWA].
1986-97 *Etymologisches Wörterbuch des Altindoarischen*. I. II. Band, Heidelberg 1986-96. III Band, Heidelberg 1997. Indogermanische Bibliothek. II. Reihe Wörterbucher. [= EWA].

McCrindle, J.W.
1926 *Ancient India: as described by Megasthenês and Arrian*, Calcutta. [First published 1877]

Meer, Wim van der
1980 *Hindustani Music in the 20th Century*. The Hague.

Monier-Williams, M.
^{2}1899 *A Sanskrit-English Dictionary*. Oxford. 1851 [=MW]
^{2}1963 *Indian Wisdom* Varanasi. Chaukhambhā Sanskrit Studies 36.

Nijenhuis, Emmie te,
1970 See Section I, *Dattilam*
1974 *Indian Music*. Leiden.
1977 *Musicological Literature*. Wiesbaden. HIL vol. VI, Fasc. 1.
1981 "Die Musik im altindischen Theater nach dem Nāṭyaśāstra", in Walter Kaufmann's *Altindien*, Leipzig, pp. 188-96.
1992 See Section I, *Saṅgītaśiromaṇi*.

Oesch, Hans,
1984 "Der indische Kulturbereich." *Aussereuropäische Musik*. Laaber 1984. Vol I, pp. 229-33, 240, 249-53, 269-75

Oka, H.
1960 *A Study of Tāla in Karnatic Music*. Tokyo.

Pande, Anupa
1987 *A Historical and Cultural Study of the Nāṭyaśāstra of Bharata*. Jodhapur.

Paranjape, S.S.
1985 *Bhāratīya Saṃgīta kā Itihāsa*, Varanasi. Chaukhambhā Rashtrabhasha Series 9.

Powers, H. S.
1980 "Tāla." *The New Grove Dictionary of Music and Musicians*. Ed. Stanley Sadie. London. Vol. 9, § II, 5, pp. 118-25.

Prasad, H. S. (ed.)
1992 *Time in Indian Philosophy: A Collection of Essays*. Delhi.

Raghavan, V.
1987 Bhoja's *Śṛṅgāra Prakāśa*. Madras.
1981 *Abhinavagupta and his Works* Varanasi.

Ramanathan, N.
1994 "The treatment of *Tāla* in the Saṅgītaratnākara vis-a-vis Nāṭyaśāstra and Dattilam." New Delhi. Read at a seminar on the Saṅgītaratnākara held at BHU. New Delhi 1994.
1997 *Essays on Tāla and Laya*. Bangalore.
1999 *Musical Forms in Saṅgītaratnākara*. Chennai.

Rangacharya, A.
1966 *Introduction to Bharata's Nāṭyaśāstra*. Bombay.
1996 *The Nāṭyaśāstra*. New Delhi.

Rao, P.S.R. Appa
1967 *A Monograph on Bharata's Naatya Shaastra:* Indian Dramaturgy. Hyderabad.

Rastogi, Sudha
1989 See Section I, *Nāṭyaśāstra of Bharata Muni*. Varanasi.

Rocher, Ludo
1981 "The Textual Tradition of the Bhāratīyanāṭyaśāstra: A Philological Assessment." *WZKS* Vol. XXV, pp. 107-130.

Rowell, Lewis.
1982 "Abhinavagupta, Augustine, Time and Music." *Journal of the Indian Musicological Society* Vol. 13, no. 2, pp. 18-36.
1986 "The Ancient Tāla System: A Comparative Approach." The Journal of the Music Academy Vol. LVII, pp. 83-99.
1992a *Music and Musical Thought in Early India*. Chicago.
1992b 'Tāla', in *Kalātattvakośa*. B. Bäumer (ed.), New Delhi pp. 333-353.
1995 "Form in the Ritual Theatre Music of Ancient India." *Musica Asiatica* Vol V. Cambridge 1995, pp. 140-90.

Sachs, Curt.
1940 *The History of Musical instruments*, New York
1953 *Rhythm and Tempo: A Study in Music History*. New York.
1962 *The Wellsprings of Music*. The Hague.

Sambamurthy, S.
^{10}1994 *South Indian Music*. Book III Madras ^{10}1994; Book IV Madras ^{7}1994.

Śāstrī, Bābū Lāla Śukla
1985 See Section I, *Hindī Nāṭyaśāstra*. Varanasi.

Schlingloff, Dieter.
1987 *Studies in the Ajanta Paintings*. Delhi.

Sen, Aruṇa Kumār.
^{2}1989 *Bhāratīya tāloṅ kā śāstrīya vivecana* ('A Critical Discussion of Indian Rhythms'). Bhopal 1973.
1994 *Indian Concept of Rhythm*. Delhi. [An abridged English transl. of 1973]

Shackleton Bailey, David R.
1976 "Editing Ancient Texts." In Herbert H. Paper (ed.), *Language and Texts*. The Nature of Linguistic Evidence. Ann Arbor 1976, pp. 21-32.

Sharma, P. L.
1987 "*Śāstra* and *Prayoga*: Śāstric and Contemporary *tāla* practice, with Special Reference to Hindustani Music." In Jonathan Katz (ed.), *Panels of the VIIth World Sanskrit Conference* Vol. XI. pp. 143-71, Leiden.
1992 "Laya." In B. Bäumer (ed.), *Kalātattvakośa* II, pp. 385-98.

Shastri, Madhusudan
1971-1981 See Section I, *Nāṭyaśāstra of Bharata Muni*.

Singh, Jaidev
1994 *Bharatiya Sangeet ka Itihas*. Calcutta.

Singh, K.P.
1969 *A Critical Study of the Kātyāyana Śrauta Sūtra*. Varanasi.

Smith, V.A.
1958 *The Oxford History of India*. Oxford.

Sparreboom, M
1985 *Chariots in the Veda*. Leiden.

Speyer, J.S.
1988 *Sanskrit Syntax*. Reprint Delhi 1988 [First edition Leiden 1886].

Srinivasan, S. A.
1980 *On the Composition of the Nāṭyaśāstra*. Reinbek. Studien zur Indologie und Iranistik, Monographie 1.

Tanselle, G. Thomas.
1990 *Textual Criticism and Scholarly Editing*. Charlottesville/London.

Tarlekar, G. H.
1975 *Studies in the Nāṭyaśāstra*. Delhi,

Tripathi, Radha Vallabha
1991 *Lectures on the Nāṭyaśāstra*. Pune. Publication of the Centre of Adv. Study in Skt., No. 1

Turner, R. L.
1966 *A Comparative Dictionary of the Indo-Aryan Languages*. Oxford.

Uhlenbeck, C. C.
1898 *Kurzgefasstes Etymologisches Wörterbuch der Altindischen Sprache*, Erste Band. Amsterdam.

Upadhyaya, Ramji
1980 *Technical Terms in Nāṭyaśāstra*: An Index. Allahabad.

Varma, K. M.
1958 *Seven Words in Bharata*. Calcutta.

Vatsyayana, K.
1996 *Bharata: the Nāṭyaśāstra*, New Delhi.

Viśveśvara, Ācārya
^{2}1973 See Section I, *Abhinavabhāratī*.

Wackernagel,
1896 *Altindische Grammatik*, Band I. Göttingen.

Walde, A.
1927 *Vergleichendes Wörterbuch der indogermanischen Sprachen*. Herausgegeben und bearbeitet von J. Pokorny, Berlin/Leipzig, Vol. I

Whitney, W. D.
1889 *Sanskrit Grammar*. Cambridge, Massachusetts ^{2}1889.

Widdess, D. R.
1977 "*Trikāla* - A Demonstration of Augmentation and Diminution from South India." *Musica Asiatica* I, pp. 61-74. Oxford.
1981 "Tāla and Melody in Early Indian Music: A Study of Nānyadeva's Pāṇikā Songs with Musical Notation". *Bulletin of the School of Oriental and African Studies*, Vol. XLIV, Part 1, pp. 481-508.
1995 *The Rāgas of Early Indian Music*. Oxford.

Willard, N. Augustus,
1834 *A Treatise on the Music of Hindoostan: Comprising a Detail of the Ancient Theory and Modern Practice*. Calcutta. Reprinted in S. M. Tagore, see William Jones.

Nederlandse samenvatting (Dutch summary)

Dit proefschrift bestaat uit twee delen. Deel I bevat een editie en vertaling van een passage over ritmiek uit het Nāṭyaśāstra (NŚ 31, 1-58), een klassiek Sanskriet werk over o.a. dans, muziek en drama, dat stamt uit het begin van onze jaartelling. Deel II is een studie van het ritmische systeem (*tāla*) van de oud-Indiase muziek aan de hand van bovengenoemde passage en andere delen van het NŚ. Onderzocht wordt of, en in hoeverre, dit oude systeem begrepen en beschreven kan worden zonder onmiddellijk een beroep te doen op latere teksten en commentaren.

De editie en de vertaling van de Sanskriet tekst in deel I kwamen als volgt tot stand. Alvorens met een studie van het oude ritmische systeem kon worden begonnen, moest eerst een nieuwe editie van bovengenoemde passage worden gemaakt. De bestaande edities zijn compleet. Het lag niet op mijn weg een kritische editie te maken. Daarvoor hadden meer dan zestig ten dele moeilijk toegankelijke edities geraadpleegd moeten worden. Ik concentreerde mij op zes edities en elf manuscripten die het *tāla* hoofdstuk bevatten. Uit een grondige analyse van dit materiaal kreeg ik de indruk dat deze edities en manuscripten elkaar veeleer aanvullen dan uitsluiten. Dit heeft ertoe geleid dat ik de desbetreffende edities en manuscripten rangschik als versies in plaats van als recensies; want waar de bronnen het meest van elkaar verschillen, gaat het vaak om lacunae die, op grond van de brede of engere contexst, gemakkelijk kunnen worden aangevuld uit completere versies. Er zijn echter ook ogenschijnlijk gelijkwaardige varianten. Hier laat ik me leiden door het beeld dat ik tijdens deze studie heb opgebouwd over ritmiek in de oude muziek. Wat deze plaatsen betreft kan het resultaat in zekere zin eclectisch worden genoemd. Deze editie vormt de basis van de Engelse vertaling in hoofdstuk twee.

In deel II wordt ingegaan op muziek-historische aspecten van het oud-ritmische systeem. Ik presenteer dit systeem aan de hand van de verscheidene betekenissen waarin het woord *tāla* in het NŚ wordt gebruikt. Na een korte bespreking van gangbare en populaire etymologieën van *tāla*, richt het onderzoek zich op de talrijke musicologische betekenissen van het woord, waarvan verreweg de meeste niet zijn vermeld in moderne woordenboeken (hst. 3). In het NŚ onderscheid ik ten minste dertien verschillende betekenissen van *tāla*:

1. een specifiek gebaar of klap met de linkerhand
2. eet systeem van gebaren van handen, vingers, en armen (cheironomie)
3. cimbalen (idiofonen)
4. de praktijk van percussie-instrumenten (idiofonen & membranofonen)
5. een muzikale maat of metrum, of haar expansies (t.w. dubbele en viervoudige vormen)
6. een type muzikale maat of metrum, (t.w. 'even', 'oneven' of 'gemengd')
7. een metend systeem (*pramāṇa/māna*)
8. een dragend systeem (*pratiṣṭhā*)
9. een coördinerend systeem (*sāmya*)
10. tijd (*kāla*)
11. actie (*kriyā*)
12. ritme (*tāla*)
13. tempo (*laya*)

Verwante betekenissen kunnen in de volgende zes groepen worden gecategoriseerd die betrekking hebben op: (i) gebaren (1-2); (ii) percussie-instrumenten (3-4); (iii) muzikale maten (5-6); (iv) structurerende of organiserende systemen (7-9); (v); relatieve en absolute substrata (10-11) en (vi) dynamische factoren (12-13). Deze zes groepen van betekenissen worden vervolgens in de hoofdstukken 4 t/m 9 besproken.

Hoofdstuk vier handelt over *tāla*-cheironomie, dat is het geheel van gebaren van handen, vingers en armen. Deze gebaren liggen aan de basis van het metrische en ritmische systeem van de oude muziek. In hoofdstuk vijf wordt de relatie met de percussie-instrumenten besproken. Naast de handgebaren, worden bepaalde cimbalen en trommels als *tāla*-instrumenten aangeduid. Het is duidelijk dat cimbalen, als verlengstukken van de handen, uitermate geschikt werden geacht het ritme van een stuk aan te geven. Ook trommels hadden deze functie, doch op een meer secundair niveau. In hoofdstuk zes wordt het verband tussen *tāla* en muzikaal metrum uitvoerig behandeld. Daar komen aan de orde o.a. de verschillende soorten en typen metra, de mogelijke ontwikkeling van deze typen, alsook de methode van *tāla*-expansie, ofwel de manier waarop een gegeven maat of patroon wordt uitgerekt door middel van verdubbeling en verviervoudiging van de basis-tijdseenheden. Buitengewoon belangrijk in dit proces is de toepassing van de cheironomie die de ritmische structuur van de patronen bepaalt; de geëxpandeerde patronen behouden de ritmische structuur van hun basisvorm. Hoofdstuk zeven handelt over ritmische organisatie. De *tāla*-gebaren die in vaste patronen zijn gerangschikt, zorgen in principe voor de structurering van de muzikale tijd; deze kan daardoor concreet worden voorgesteld, namelijk als een meetbare entiteit. Hiermede kan de muziekuitvoering ook worden gemeten. Naast het metrische aspect van *tāla*-cheironomie, worden ook haar dragende en coördinerende aspecten belicht. In hoofdstuk acht wordt *tāla* behandeld als een aspect van tijd en actie. Het NŚ stelt *tāla* gelijk met tijd en actie in relatieve zin, maar latere teksten doen dat ook in absolute zin. Dit geldt ook voor latere identificaties van *tāla* met *nāda*, het kosmische geluid. Hoofdstuk negen brengt *tāla* in verband met belangrijke ritmische factoren zoals tempo en daaraan gerelateerde begrippen.

Hoofdstuk tien bevat een opsomming van de belangrijkste onderzoeksresultaten van dit onderzoek.

Curriculum Vitae

Narinder Mohkamsing, born on November 10, 1958 in district Surinam, Surinam, attended the J.C. de Miranda Lyceum at Paramaribo until 1974 when he migrated to the Netherlands. In 1987 he obtained his HAVO diploma from the Libanon Scholengemeenschap, Rotterdam. In 1980 he received a scholarship from the Indian Council for Cultural Relations (ICCR) to study at the Central Institute of Hindi, New Delhi. In the years that followed he stayed in India to study music and classical Indology at the L.B.S. Central Sanskrit institute, New Delhi (now L.B.S. Sanskrit University). In 1985 he returned to the Netherlands and resumed his study of Indology, University of Leiden, and graduated in 1990 with a major in Indian philosophy and minors in Sanskrit, Vedics and Buddhology. For his research on the Nāṭyaśāstra and the rhythmic system of ancient Indian music he was sponsored by the Netherlands Organisation for Scientific Research (NWO) from March 1, 1993 to March 1, 1997, and attached to the University of Leiden as research assistant (oio).

Besides a number of freelance jobs, Mr Mohkamsing has been associated with the Rotterdam Conservatory since 1988 as a teacher of Hindi, history of Indian Culture and history of Indian music.

'One who does not understand *tāla* cannot be(come) a good musician
(lit. a vocalist or instrumentalist).' Nāṭyaśāstra (KSS) 31, 530ab.

Rhythm or rhythmic organisation (*tāla*) in ancient Indian music apparently occupied the same fundamental position in the performing arts as it does in its modern counterpart. This is also reflected by its important function as a structuring, measuring, supporting and coordinating system.
The research presented in this publication explores the fundamentals of the rhythmic system (*tāla*) in ancient Indian music. The focal point of this investigation is the thirty-first chapter of Bharata's Nāṭyaśāstra, a classical treatise on dramaturgy, which also includes chapters on rhythm, music, dance and poetry. The first part of this volume contains an analysis of the entire *tāla* chapter, followed by an edition and translation of the first part of the chapter. The second part contains a discussion on the various meanings of the word *tāla*.